



SERIES 1055

Subsubminiature snap-action switches IP 67
to 4 A 12 V or 2 A 24 V DC



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SERIES 1050

Subminiature snap-action switches
to 10 (1.5) A 250 V AC



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SERIES 1045

Subminiature snap-action switches
IP 67
to 10(3) A 250 V AC 1E4



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SERIES 1080

Miniature snap-action switches
to 21 (8) A 250 V AC



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197 – 200

SERIES 1005

Miniature snap-action switches
to 21 (8) A 250 V AC



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201 – 208

SERIES 1040

Rotary shaft snap-action switches
to 4 (1) A 250 V AC



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209 – 210

SERIES 1010

Open snap-action switches
to 6 (2) A 250 V AC



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SNAP-ACTION SWITCHES

SERIES 1019

Single-pole snap-action switches
to 6 (2) A 250 V AC



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SERIES 1022

Snap-action switches IP 67
to 4 A 12 V DC



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SERIES 1117

Snap-action switches
to 16 (6) A 400 V AC



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SERIES 1115

One pole pushbutton switches
to 16 (4) A 400 V AC



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SERIES 1055 - SUBMINIATURE SNAP-ACTION SWITCHES IP 67

TO 4 A 12 V OR 2 A 24 V DC



PRODUCT FEATURES

- Compact design with dust and water protected switching system acc. to IP 67 (basic types 1055 / 1058)
- Large overtravel of ≥ 1.2 mm for small size
- The specially designed pushbutton guide enables a start-up angle of 40°
- The modular principle offers a wide selection of terminals, auxiliary actuators and fastening types

ON REQUEST

- Rating 0.5 (0.5) A 250 V AC 25E3 and ENEC approval mark
- For higher ambient temperatures
- Customized cable assembly
- Basic type 1058 as double switch or with cable outlet in other directions

Mechanical life endurance	5E5
Contact resistance (new condition)	< 50 mOhm (1 A 12 V DC)
Insulation resistance (new condition)	> 100 MOhm (500 V DC)
Protection type	IP 00 terminal side basic types 1055 and 1056 IP 40 actuator side basic type 1056 IP 67 actuator side basic type 1055, terminal and actuator side basic type 1058
Ambient temperature	-40 °C ... +85 °C
Flammability	UL 94 HB
Material	actuator: POM / LCP / silicone rubber additional actuator: stainless steel spring steel housing: PBTP terminals: tinned basic type 1058: wires FLRY 0.5 mm ² , tinned wire ends
Contact material	Ag gold plated
Approval marks	☞ on request
Shock resistance	50 g
Miscellaneous	terminal side sealed electrical life endurance at 24 V DC 2 A (ohmic load): 100E3, at 24 V DC 10 mA: 500E3

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH/DRIVE



SERIES 1055 - SUBSUBMINIATURE SNAP-ACTION SWITCHES IP 67

TO 4 A 12 V OR 2 A 24 V DC

		4 A 12 V DC (ohmic load)	2 A 24 V DC (ohmic load)	0.5 (0.5) A 250 V AC 25E3	Terminal type	Terminal description	Operating force (N)	Operating position (OP) (mm)	Difference travel max. (mm)	Free position (FP) max. (mm)	Permissible total travel position (TP) (mm)	Actuator description	Lever drawing	Miscellaneous	Stock version
Normally closed contact (SPNC)															
1058.0395	○	○			⏚	400 long crimped	≤ 1.8	9.4 ±0.3	0.4	10.4	7.9	□		pin right 1.5 long	
Normally open contact (SPNO)															
1058.0373	○	○			⏚	150 long	≤ 1.8	9.4 ±0.3	0.4	10.4	7.9	□		pin right 1.5 long	
1058.0593	○	○			⏚	300 long	≤ 1.8	9.4 ±0.3	0.4	10.4	7.9	□		pin both sides 5 long	
Changeover switch (SPDT momentary)															
1055.0351	○	○			⊕		≤ 1.8	9.4 ±0.3	0.4	10.4	7.9	□		pin right 1.5 long	○
1055.0552	○	○			⊕		≤ 1.8	9.4 ±0.3	0.4	10.4	7.9	□		pin left 5 long	
1055.2061	○	○			⏚	coded cranked	≤ 1.8	13.75 ±0.3	0.4	14.75	12.25	□		without pin	
1055.2351	○	○			⏚		≤ 1.8	9.4 ±0.3	0.4	10.4	7.9	□		pin right 1.5 long	
1055.3653	○	○			⏚		≤ 1.8	9.4 ±0.3	0.4	10.4	7.9	□		pin right 2.5 long	
1055.3654	○	○			⏚		≤ 1.8	9.4 ±0.3	0.4	10.4	7.9	□		pin left 2.5 long	
1055.5155	○	○			⊕		≤ 2.6	12.4 ±0.65	0.8	14.7	10.3		L21	pin both sides 2.5 long	
1055.5350	○	○			⊕		≤ 4.2	14.05 ±0.45	0.5	15.85	12.65		L02	without pin	
1055.8155	○	○			⏚		≤ 2.6	12.4 ±0.65	0.8	14.7	10.3		L21	pin right 2.5 long	
1056.0351	○	○			⊕		≤ 1.3	6.15 ±0.3	0.4	7.15	4.65	□		pin right 1.5 long	
1056.2351	○	○			⏚		≤ 1.3	6.15 ±0.3	0.4	7.15	4.65	□		pin right 1.5 long	
1056.3060	○	○			⏚	coded cranked	≤ 1.3	10.5 ±0.3	0.4	11.5	9	□		without pin	
1056.3065	○	○	○		⏚	coded cranked	≤ 1.3	10.5 ±0.3	0.4	11.5	9	□		without pin	
1056.3351	○	○			⏚		≤ 1.3	6.15 ±0.3	0.4	7.15	4.65	□		pin right 1.5 long	
1056.3352	○	○			⏚		≤ 1.3	6.15 ±0.3	0.4	7.15	4.65	□		pin left 1.5 long	
1058.0351	○	○			⏚	300 long	≤ 1.8	9.4 ±0.3	0.4	10.4	7.9	□		pin right 1.5 long	○
1058.0553	○	○			⏚	300 long	≤ 1.8	9.4 ±0.3	0.4	10.4	7.9	□		pin both sides 5 long	
1058.0653	○	○			⏚	300 long	≤ 1.8	9.4 ±0.3	0.4	10.4	7.9	□		pin both sides 2.5 long	○
1058.5253	○	○			⏚	300 long	≤ 4.2	9.7 ±0.45	0.5	11.6	8.25		L31	pin both sides 2.5 long	

ROCKERS SWITCHES
 PUSHBUTTON SWITCHES
 TOGGLE SWITCHES
 SLIDE SWITCHES
 ROTARY SWITCHES
 FOOT SWITCHES
 TACT AND KEY SWITCHES
 SNAP-ACTION SWITCHES
 MICRO-SIGNAL SWITCHES
 SENSORS
 ECO
 PUSH IN DRIVE

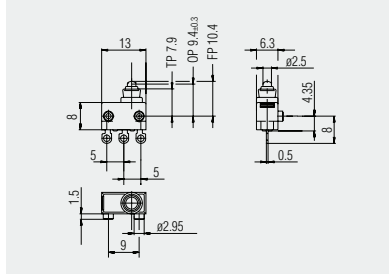


SERIES 1055 - SUBMINIATURE SNAP-ACTION SWITCHES IP 67

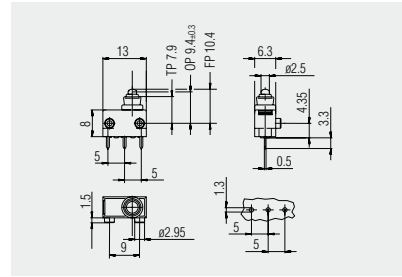
TO 4 A 12 V OR 2 A 24 V DC



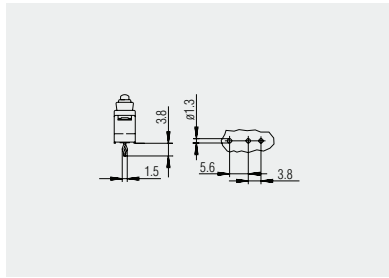
Basic type 1055



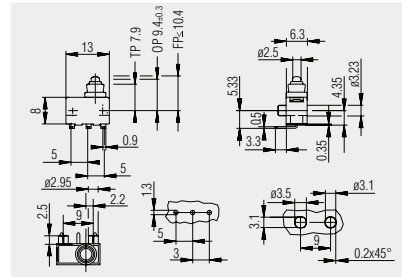
Solder terminal



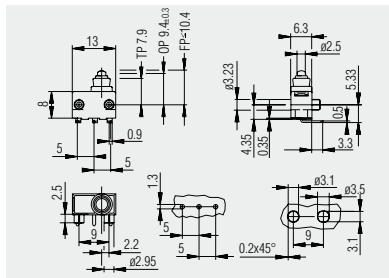
PCB terminal



PCB terminal coded cranked



PCB terminal left angled



PCB terminal right angled

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH/DRIVE

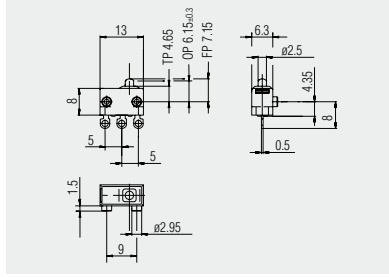


SERIES 1055 - SUBMINIATURE SNAP-ACTION SWITCHES IP 67

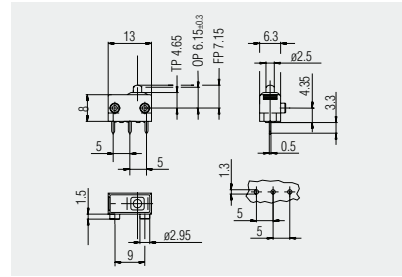
TO 4 A 12 V OR 2 A 24 V DC



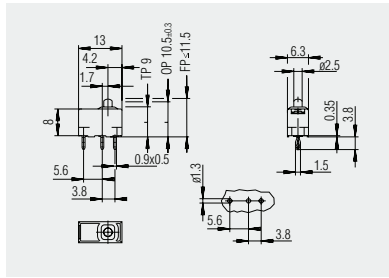
Basic type 1056



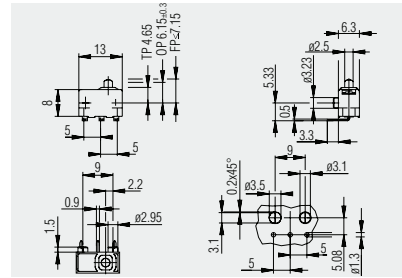
⌋ Solder terminal



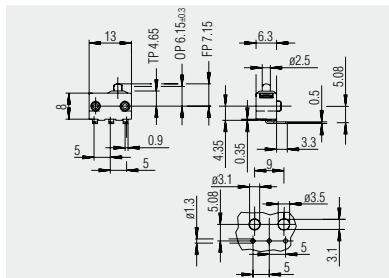
⌋ PCB terminal



⌋ PCB terminal coded cranked



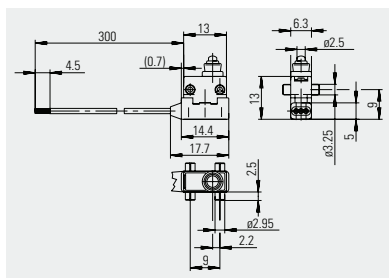
⌋ PCB terminal left angled



⌋ PCB terminal right angled



Basic type 1058



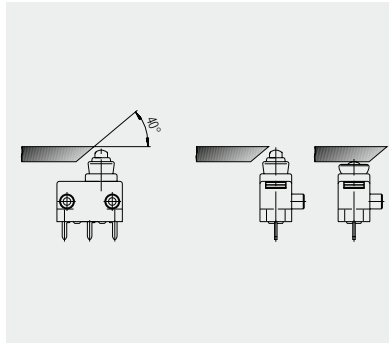
⌋ Cable 300 long

ROCKER SWITCHES
PUSHBUTTON SWITCHES
TOGGLE SWITCHES
SLIDE SWITCHES
ROTARY SWITCHES
FOOT SWITCHES
TACT AND KEY SWITCHES
SNAP-ACTION SWITCHES
MICRO-SIGNAL SWITCHES
SENSORS
ECO
PUSH IN DRIVE



SERIES 1055 - SUBMINIATURE SNAP-ACTION SWITCHES IP 67

TO 4 A 12 V OR 2 A 24 V DC



Approach angle up to 40°

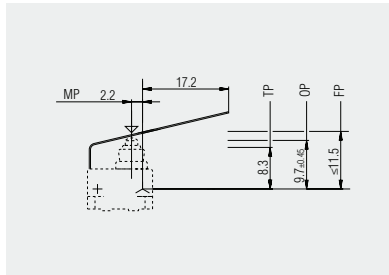
The robust pushbutton guide allows actuations by slides or camshafts with an approach angle of < 40° (depending on the friction partner).

The mechanical life endurance depends on the material and surface properties of the slide and the installation situation in the appliance. Under optimum conditions and longitudinal actuation, 200E3 cycles can be achieved.

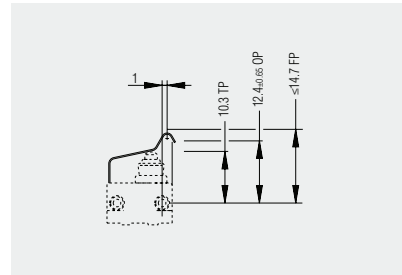
The above sketch can be transposed to the basic types 1056 and 1058.



Auxiliary actuators

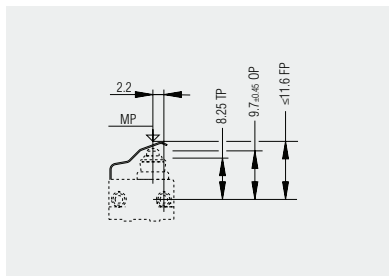


L02: straight lever
191.081.041

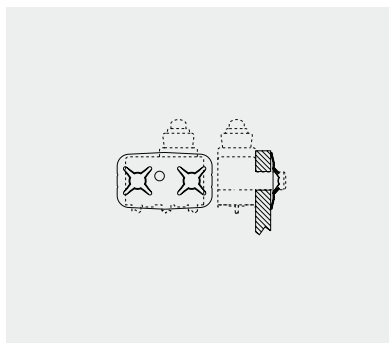


L21: simulated roller
191.081.031

The auxiliary actuators are available as additional parts for the basic types 1055 and 1058 for retrofitting or are already pre-assembled depending on the product. When assembling yourself, make sure that the lever is pushed into the housing slot right up to the stop.



L31: differential lever
191.081.011



140.092.021
fastening disc for the basic types 1055, 1056 und 1058

The fastening disc offers a quick, reliable fastening possibility in combination with switches with 5 mm long pins to plates or plastic parts with a wall thickness up to 2.5 mm.

Fastening disc

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

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SNAP-ACTION SWITCHES

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SENSORS

ECO

PUSH/DRIVE



SERIES 1050 - SUBMINIATURE SNAP-ACTION SWITCHES

TO 10 (1.5) A 250 V AC



PRODUCT FEATURES

- Small, efficient snap-action switches 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)
Insulation resistance (new condition)	> 100 MOhm (500 V DC)
Proof tracking	175 PTI
Protection type	IP 40 (actuator side)
Ambient temperature	-40 °C ... +100 °C
Flammability	UL 94 V-2
Glow wire test temperature	850 °C
Material	additional actuator housing terminals
	PA glass fiber-reinforced / stainless steel spring steel PBTP tinned / silver plated / blank (product-dependent)
Bounce time	< 5 ms
Approval marks	
Suitable for appliances of protection class II under compliance with the installation conditions required on the equipment side	

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS


ECO

PUSH/DRIVE



SERIES 1050 - SUBMINIATURE SNAP-ACTION SWITCHES

TO 10 (1.5) A 250 V AC

		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	Terminal type	Terminal description	Contact material	Operating force (N)	Operating position (OP) (mm)	Difference travel max. (mm)	Free position (FP) max. (mm)	Permissible total travel position (TP) (mm)	Actuator description	Lever drawing	Miscellaneous	Stock version	
Normally closed contact (SPNC)																				
1050.1142		o							2.8 x 0.5	Ag	≤ 1.5	8.4 ± 0.3	0.2	9.3	7.5					
Normally open contact (SPNO)																				
1050.0122		o			o					Ag	≤ 1.5	8.4 ± 0.3	0.2	9.3	7.5					o
1050.1122		o			o				2.8 x 0.5	Ag	≤ 1.5	8.4 ± 0.3	0.2	9.3	7.5					o
1050.2122		o			o				sealed	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			greater overtravel without approval mark		
Changeover switch (SPDT momentary)																				
1050.0103		o			o					Ag	≤ 2.2	8.4 ± 0.3	0.2	9.3	7.5					o
1050.2403		o			o				sealed	Ag	≤ 2.2	8.4 ± 0.3	0.1	9.3	7			greater overtravel		
1050.0102		o			o				sealed	Ag	≤ 1.5	8.4 ± 0.3	0.2	9.3	7.5					o
1050.0202		o			o					Ag	≤ 1.5	9.9 ± 0.3	0.2	10.8	9.1					o
1050.0802		o			o					Ag	≤ 5	9.9 ± 0.3	0.2	10.8	9.3			foam sealing ring around pushbutton		
1050.1102		o			o				2.8 x 0.5	Ag	≤ 1.5	8.4 ± 0.3	0.2	9.3	7.5					o
1050.1202		o			o				2.8 x 0.5	Ag	≤ 1.5	9.9 ± 0.3	0.2	10.8	9.1					o
1050.2102		o			o				sealed	Ag	≤ 1.5	8.4 ± 0.3	0.2	9.3	7.5					o
1050.2202		o			o				sealed	Ag	≤ 1.5	9.9 ± 0.3	0.2	10.8	9.1					o
1050.3102		o			o					Ag	≤ 1.5	8.4 ± 0.3	0.2	9.3	7.5			fixing pin		o
1050.4102		o			o					Ag	≤ 1.5	8.4 ± 0.3	0.2	9.3	7.5			fixing pin		o
1050.5202		o			o				sealed	Ag	≤ 0.5	11.1 ± 1.5	1.0	15	7.4		L02			o
1050.5702		o			o				sealed	Ag	≤ 0.6	16.2 ± 1.5	1.0	20	13		L12			o
1050.6702		o			o				2.8 x 0.5	Ag	≤ 0.6	16.2 ± 1.5	1.0	20	13		L12			o
1050.7202		o			o				sealed	Ag	≤ 0.5	11.1 ± 1.5	1.0	15	7.4		L02			o
1050.7702		o			o				sealed	Ag	≤ 0.6	16.2 ± 1.5	1.0	20	13		L12			o
1050.0151			o			o			sealed	Au	≤ 1.5	8.4 ± 0.3	0.2	9.3	7.5					o
1050.1151			o			o			2.8 x 0.5	Au	≤ 1.5	8.4 ± 0.3	0.2	9.3	7.5					o
1050.2151			o			o			sealed	Au	≤ 1.5	8.4 ± 0.3	0.2	9.3	7.5					o
1050.5251			o			o			sealed	Au	≤ 0.5	11.1 ± 1.5	1.0	15	7.4		L02			
1050.5305			o			o			sealed	Au	≤ 0.6	16.6 ± 0.2	1.0	20	13.6		L43			o

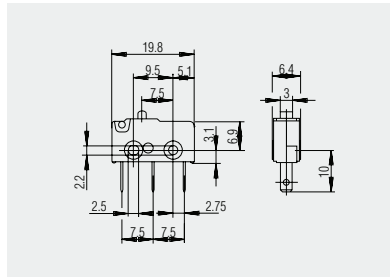


SERIES 1050 - SUBMINIATURE SNAP-ACTION SWITCHES

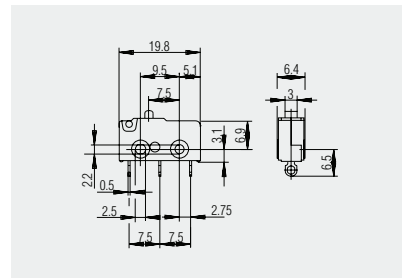
TO 10 (1.5) A 250 V AC



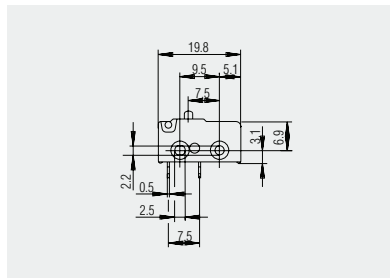
Terminal variants



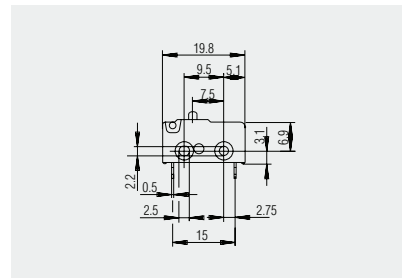
Quick-connect terminal 2.8 x 0.5



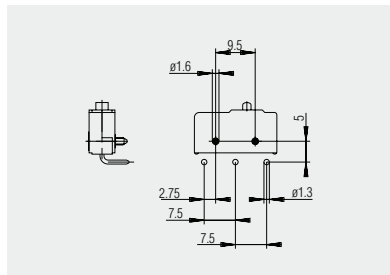
Solder terminal



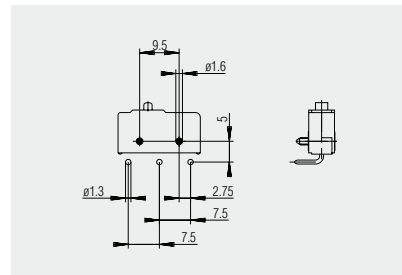
Solder terminal normally open contact version



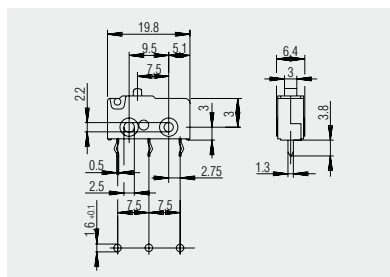
Solder terminal normally closed contact version



PCB terminal (cover side) right angled



PCB terminal (base side) left angled



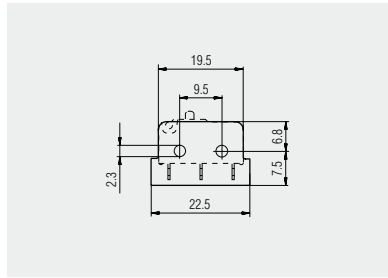
PCB terminal sealed

ROCKER SWITCHES
PUSHBUTTON SWITCHES
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MICRO-SIGNAL SWITCHES
SENSORS
ECO
PUSH IN DRIVE



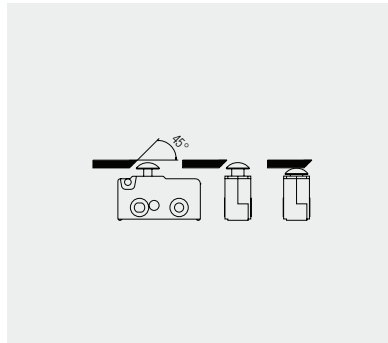
SERIES 1050 - SUBMINIATURE SNAP-ACTION SWITCHES

TO 10 (1.5) A 250 V AC



Additional parts

Insulating plate for solder terminal
0.5 mm: 231.005.021



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.

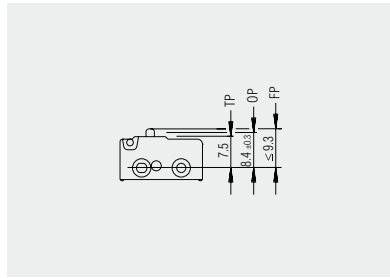


SERIES 1050 - SUBMINIATURE SNAP-ACTION SWITCHES

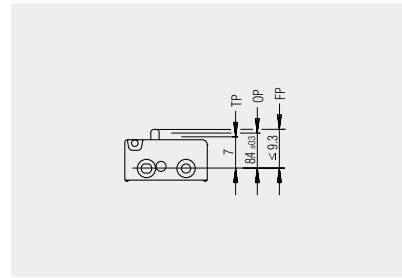
TO 10 (1.5) A 250 V AC



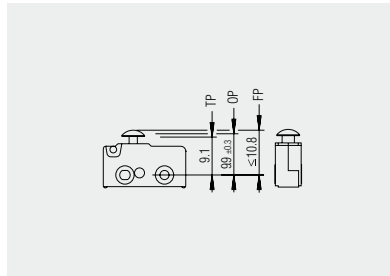
Switching positions



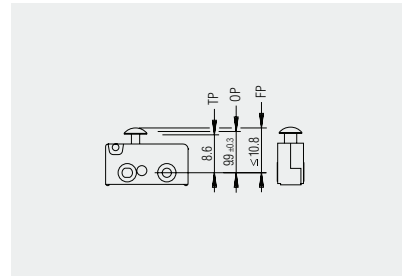
Standard actuator



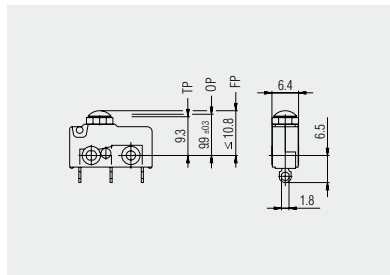
Standard actuator and extended overtravel



Mushroom-shaped actuator



Mushroom-shaped actuator and extended overtravel



Mushroom-shaped actuator with foam sealing ring

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH IN/DRIVE



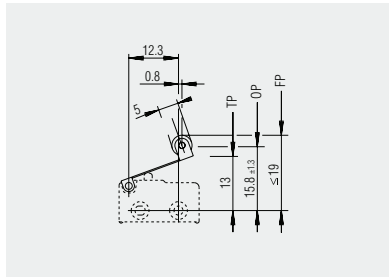
SERIES 1050 - SUBMINIATURE SNAP-ACTION SWITCHES

TO 10 (1.5) A 250 V AC

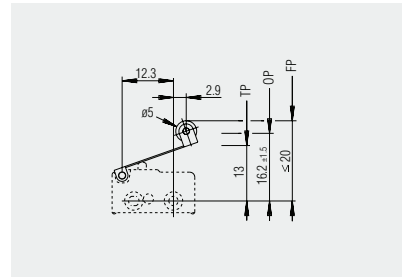


Auxiliary actuators

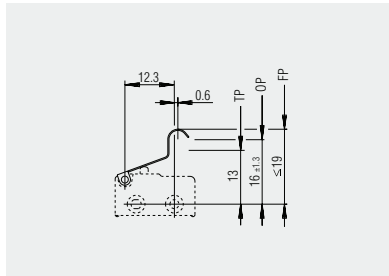
The auxiliary actuators are available as additional parts for later assembly or are already pre-assembled depending on the product. In the adjustable versions the operating position can be set application-specifically by the set screw.



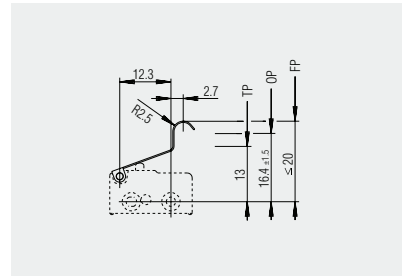
L11: roller lever
191.078.013



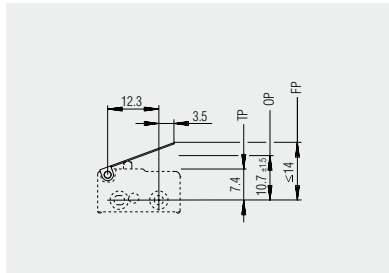
L12: roller lever
191.078.023



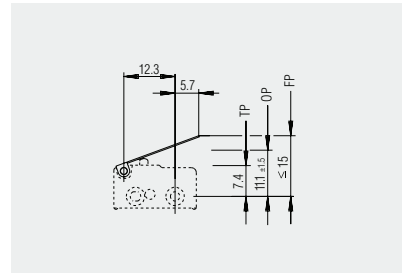
L21: simulated roller
191.071.041



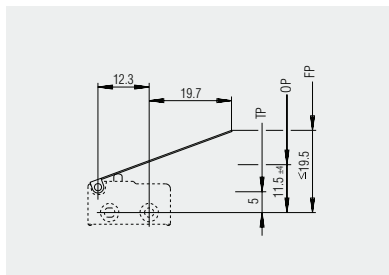
L22: simulated roller
191.071.051



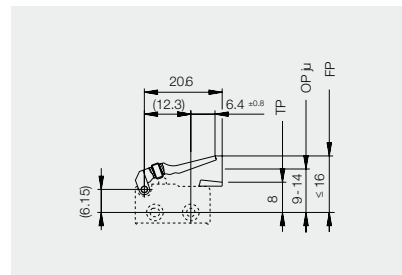
L01: straight lever
191.071.011



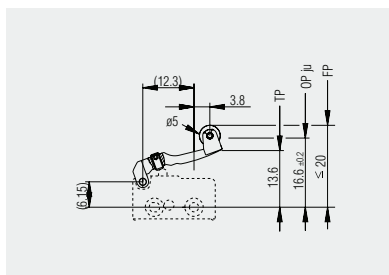
L02: straight lever
191.071.021



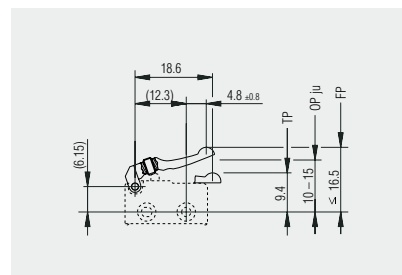
L03: straight lever
191.071.101



L41: adjustable plastic lever
190.075.013



L43: adjustable roller lever
190.072.013



L45: adjustable simulated roller
190.074.013

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH/DRIVE



SERIES 1045 - SUBMINIATURE SNAP-ACTION SWITCH IP 67

TO 10(3) A 250 V AC 1E4




PRODUCT FEATURES

- Dust and water protected switching system according IP 67
- Rating from low DC signal currents to ratings of 10 (3)A 250 VAC
- Versions for high motor rating up to 6 (6) A 250 VAC
- Versions with integrated mechanism for breaking contact weldings
- IEC 60335 Chapter 30 approved for household appliances
- More than 10 million switching cycles

ON REQUEST

- Versions with reduced difference travel
- Versions with mounting pegs to the side
- With asymmetric pinning
- With customized wiring

Design	DIN 41635 B
Mechanical life endurance	10E6, tightness up to 1.5E6 cycles 1E6 (versions with auxiliary actuator)
Contact resistance (new condition)	< 100 mOhm (1 A 12 V DC)
Insulation resistance (new condition)	> 100 MOhm (500 V DC)
Proof tracking	250 PTI
Protection type	IP 00 terminal side basic types 1045 and 1046 IP 40 actuator side basic type 1046 IP 67 actuator side basic type 1045, terminal and actuator side basic type 1048
Ambient temperature	-40 °C ... +100 °C
Flammability	UL 94 V-0
Glow wire test temperature	850 °C
Material additional actuator housing terminals	stainless steel spring steel PA Latamid glass fiber-reinforced tinned / faston terminals blank
Bounce time	< 5 ms
Approval marks	 (61058)
Suitable for appliances of protection class II under compliance with the installation conditions required on the equipment side	

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH IN DRIVE



SERIES 1045 - SUBMINIATURE SNAP-ACTION SWITCH IP 67

TO 10(3) A 250 V AC 1E4

	Normally closed contact (SPNC)		Normally open contact (SPNO)		Changeover switch (SPDT momentary)	
		1045.0142		1045.1943		1045.0102
5 (5) A 250 V AC 10E3						○
1 A 250 V AC 100E3						○
3 (3) A 250 V AC 30E3						
6 (1) A 250 V AC 30E3						
2 (1) A 250 V AC 100E3					○	
3 A 250 V AC 100E3	○					
10 (3) A 250 V AC 10E3						○
6 (6) A 250 V AC 30E3		○				
Terminal type						
Terminal description	sealed		2.8 x 0.5 sealed		sealed	
Contact material	Ag		Ag		Ag	
Operating force (N)	≤2.6		≤3.2		≤2.6	
Operating position (OP) (mm)	8.4 ±0.3		8.4 ±0.3		8.4 ±0.3	
Difference travel max. (mm)	0.2		0.2		0.2	
Free position (FP) max. (mm)	9.3		9.3		9.3	
Permissible total travel position (TP) (mm)	7.6		7.6		7.6	
Actuator	IP 67		IP 67		IP 67	
Actuator description	□		□		□	
Lever drawing						
Miscellaneous		with positive action on NC side				with positive action on NC side
Stock version	○		○		○	
						○
						○
						○
						○
						○
						○
						○
						○
						○
						○
						○

PUSH/DRIVE | ECO | SENSORS | MIKRO-SIGNALSCHALTER | SMAP-ACTION SWITCHES | TACT AND KEY SWITCHES | FOOT SWITCHES | ROTARY SWITCHES | SLIDE SWITCHES | TOGGLE SWITCHES | PUSHBUTTON SWITCHES | ROCKER SWITCHES



SERIES 1045 - SUBMINIATURE SNAP-ACTION SWITCH IP 67

TO 10(3) A 250 V AC 1E4



		Changeover switch (SPDT momentary)															
															1045.3151		
5 (5) A 250 V AC 10E3																	○
1 A 250 V AC 100E3		○															
3 (3) A 250 V AC 30E3																	○
6 (1) A 250 V AC 30E3																	○
2 (1) A 250 V AC 100E3																	○
3 A 250 V AC 100E3																	○
10 (3) A 250 V AC 10E3																	○
6 (6) A 250 V AC 30E3																	○
Terminal type		└	└	└	⌒	⌒	⌒	⌒	⌒	⌒	⌒	⌒	⌒	⌒	⌒	⌒	⌒
Terminal description		sealed	sealed	sealed	sealed	sealed	sealed	sealed	sealed	2.8 x 0.5 sealed	2.8 x 0.5 sealed	sealed cranked	sealed cranked	sealed	2.8 x 0.5 sealed	sealed cranked	
Contact material		Au	Ag	Au	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Au
Operating force (N)		≤1.9	≤2.6	≤1.9	≤0.7	≤2.0	≤0.7	≤2.0	≤0.9	≤0.9	≤0.9	≤0.9	≤0.9	≤2.8	≤2.8	≤2.8	≤1.9
Operating position (OP) (mm)		8.4 ±0.3	8.4 ±0.3	8.4 ±0.3	11.1 ±1.5	9.5 ± 1.0	16.2 ±1.5	15 ±1	11.1 ±1.5	16.2 ±1.5	11.1 ±1.5	16.2 ±1.5	11.1 ±1.5	8.4 ±0.3	8.4 ±0.3	8.4 ±0.3	8.4 ±0.3
Difference travel max. (mm)		0.2	0.2	0.2	0.8	0.7	0.7	0.7	1.0	1.0	1.0	1.0	1.0	0.2	0.2	0.2	0.2
Free position (FP) max. (mm)		9.3	9.3	9.3	15	12	20	17	15	20	15	20	15	9.3	9.3	9.3	9.3
Permissible total travel position (TP) (mm)		7.6	7.6	7.6	7.6	8	13	13.6	7.6	13	7.6	13	7.6	7.6	7.6	7.6	7.6
Actuator		IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 40	IP 40	IP 40	IP 67
Actuator description		□	□	□	—	—	—	—	—	—	—	—	—	□	□	□	□
Lever drawing					L02	L02	L22	L22	L02	L22	L02	L22	L02				
Miscellaneous						lever on NC side mounted		lever on NC side mounted								with positive action on NC side	
Stock version		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ROCKER SWITCHES
PUSHBUTTON SWITCHES
TOGGLE SWITCHES
SLIDE SWITCHES
ROTARY SWITCHES
FOOT SWITCHES
TACT AND KEY SWITCHES
SNAP-ACTION SWITCHES
MICRO-SIGNAL SWITCHES
SENSORS
ECO
PUSH/DRIVE



SERIES 1045 - SUBMINIATURE SNAP-ACTION SWITCH IP 67

TO 10(3) A 250 V AC 1E4

		Changeover switch (SPDT momentary)				
5 (5) A 250 V AC 10E3					1048.1102	
1 A 250 V AC 100E3						○
3 (3) A 250 V AC 30E3	○					
6 (1) A 250 V AC 30E3						
2 (1) A 250 V AC 100E3						
3 A 250 V AC 100E3						
10 (3) A 250 V AC 10E3						○
6 (6) A 250 V AC 30E3						
Terminal type					⇓	⇓
Terminal description						
Contact material		Ag	Au	Ag		
Operating force (N)		≤2.6	≤1.9	≤2.0		
Operating position (OP) (mm)		8.4 ±0.3	8.4 ±0.3	15 ±1		
Difference travel max. (mm)		0.2	0.2	0.7		
Free position (FP) max. (mm)		9.3	9.3	17		
Permissible total travel position (TP) (mm)		7.6	7.6	13.6		
Actuator		IP 67	IP 67	IP 67		
Actuator description		□	□			
Lever drawing				L22		
Miscellaneous		cable outlet on actuator side	cable outlet down	lever on NC side mounted		
Stock version	○	○	○	○		

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MIKRO-SIGNALSCHALTER

SENSORS

ECO

PUSH/DRIVE

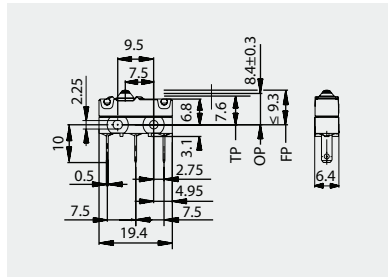


SERIES 1045 - SUBMINIATURE SNAP-ACTION SWITCH IP 67

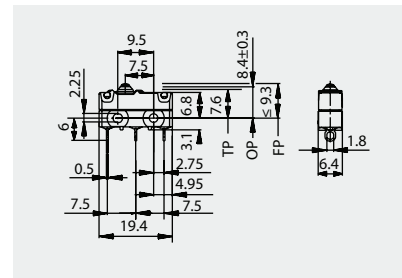
TO 10(3) A 250 V AC 1E4



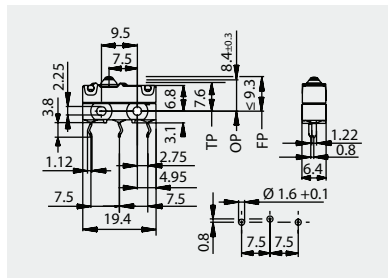
Basic type 1045



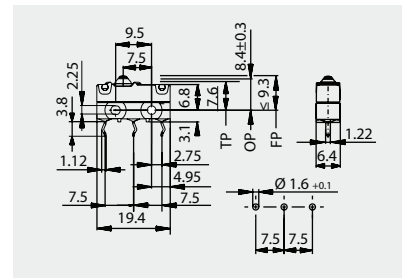
Quick-connect terminal 2.8 x 0.5 sealed



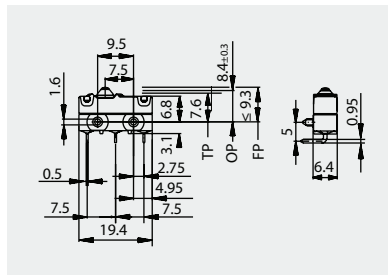
Solder terminal sealed



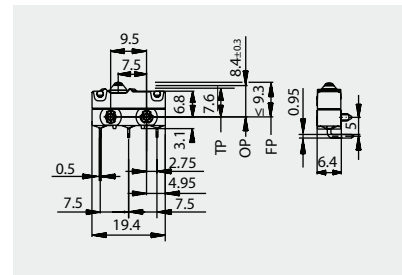
PCB terminal sealed, coded, cranked



PCB terminal sealed, cranked



PCB terminal sealed, left angled



PCB terminal sealed, right angled

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

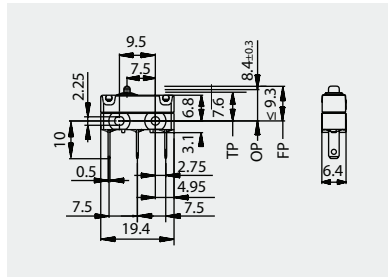
ECO

PUSH IN DRIVE



SERIES 1045 - SUBMINIATURE SNAP-ACTION SWITCH IP 67

TO 10(3) A 250 V AC 1E4



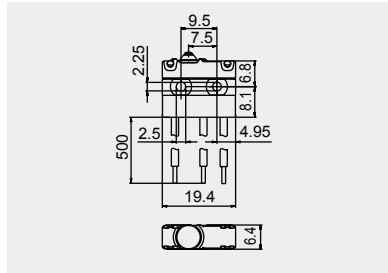
Basic type 1046

Quick-connect terminal 2.8 x 0.5 sealed

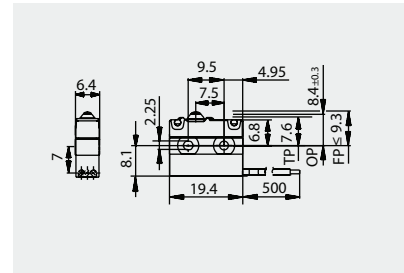


Basic type 1048

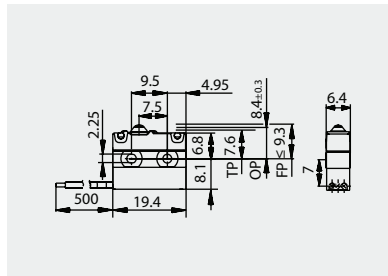
Wires potted with switch,
wire ends tinned



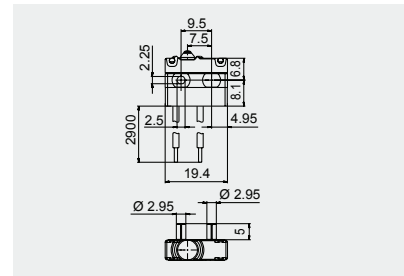
Cable, outlet down



Cable, outlet NC side



Cable, outlet C side



Cable, outlet down, normally open contact, mounting pegs

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH/DRIVE



SERIES 1045 - SUBMINIATURE SNAP-ACTION SWITCH IP 67

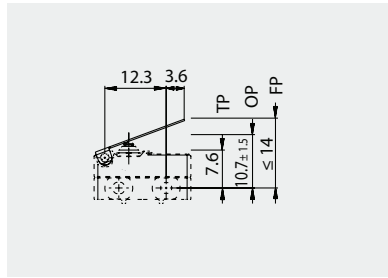
TO 10(3) A 250 V AC 1E4



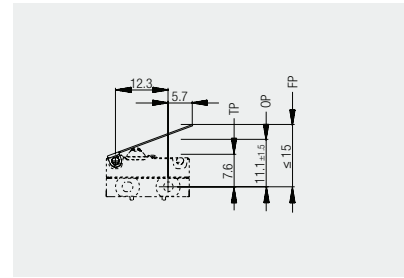
Auxiliary actuators

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.

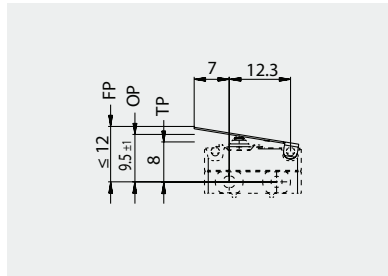
Switch versions without positive action feature a lever mounting point on the C and NC side, those with positive action only on the C side.



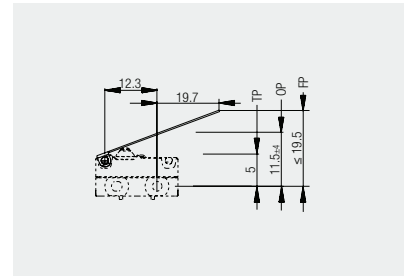
L01: straight lever
191.071.011



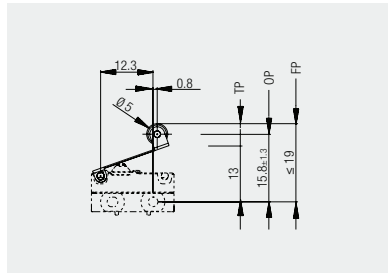
L02: straight lever
191.071.021



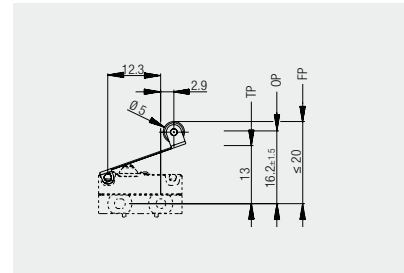
L02: straight lever, mounted on NC side
191.071.021



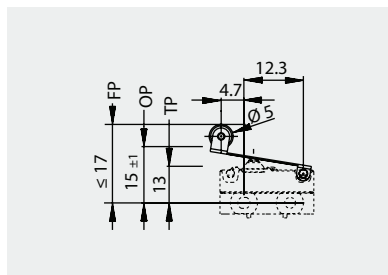
L03: straight lever
191.071.101



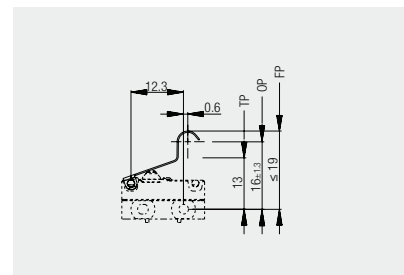
L11: roller lever
191.078.023



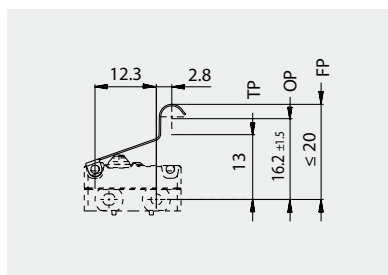
L12: roller lever
191.078.023



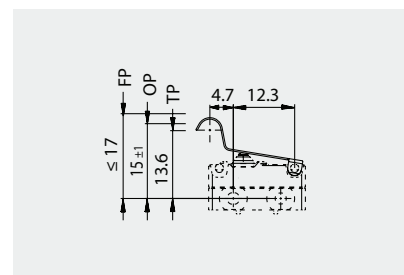
L12: roller lever, mounted on NC side
191.078.023



L21: simulated roller
191.071.041



L22: simulated roller
191.071.051



L22: simulated roller, mounted on NC side
191.071.051

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH IN DRIVE

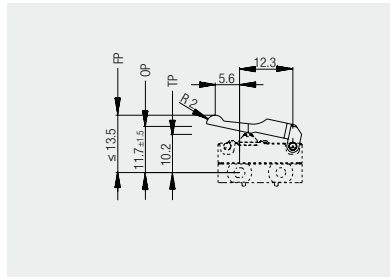


SERIES 1045 - SUBMINIATURE SNAP-ACTION SWITCH IP 67

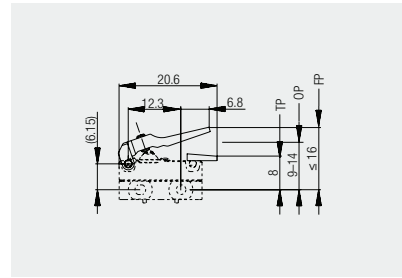
TO 10(3) A 250 V AC 1E4



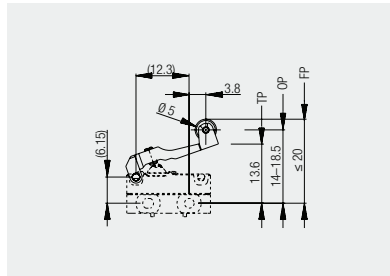
Auxiliary actuators
(continue from page 195)



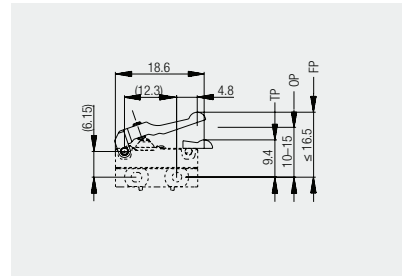
L32: simulated roller, mounted on NC side
190.372.041



L41: adjustable plastic lever
190.075.013



L43: adjustable roller lever
190.072.013



L45: adjustable simulated roller
190.074.013

Further information under

WWW.MARQUARDT-SWITCHES.COM



SERIES 1080 - MINIATURE SNAP-ACTION SWITCHES

T0 21 (8) A 250 V AC



PRODUCT FEATURES

- The precise mounting of the moving contact part (milled bearing blade) offers optimum snap-action even with slow actuation
- Wide range of ratings from 3 (1) A 250 V AC to 21 (8) A 250 V AC
- Versions with gold plated contacts for signal current applications
- Various auxiliary actuators, two suspension points

ON REQUEST

- Low operating forces (≤ 0.15 N)
- Customized additional actuators
- Plug terminal 4.8 x 0.5 mm

Design	DIN 41635 A
Mechanical life endurance	2E6 (basic type 1080) 20E4 (basic type 1085)
Contact resistance (new condition)	< 100 mOhm (1 A 12 V DC)
Insulation resistance (new condition)	> 100 MOhm (500 V DC)
Proof tracking	250 PTI
Protection type	IP 40 (actuator side)
Ambient temperature	-40 °C ... +125 °C
Flammability	UL 94 V-0
Glow wire test temperature	850 °C
Material actuator additional actuator housing terminals	PETP glass fiber-reinforced stainless steel PA glass fiber-reinforced / PETP glass fiber-reinforced silver plated / CuZn
Bounce time	< 10 ms
Approval marks	
Suitable for appliances of protection class II under compliance with the installation conditions required on the equipment side	

ROCKERSWITCHES
 PUSHBUTTON SWITCHES
 TOGGLE SWITCHES
 SLIDE SWITCHES
 ROTARY SWITCHES
 FOOT SWITCHES
 TACT AND KEY SWITCHES
 SNAP-ACTION SWITCHES
 MICRO-SIGNAL SWITCHES
 SENSORS
 ECO
 PUSH IN DRIVE



SERIES 1080 - MINIATURE SNAP-ACTION SWITCHES

TO 21 (8) A 250 V AC

	Normally closed contact (SPNC)		Normally open contact (SPNO)					Changeover switch (SPDT momentary)									
		1080.0464		1080.0440	1080.0539	1085.0342	1080.0585		1080.0103	1080.0203	1080.0304	1080.0403	1080.0903	1080.5906	1085.0103	1085.0403	1085.0375
21 (8) A 250 V AC 1E4		○		○	○				○	○	○	○	○	○			
16 (8) A 250 V AC 1E4				○	○												
16 (4) A 250 V AC 5E4				○	○												
16 (4) A 250 V AC 25E3									○	○	○	○	○	○	○	○	
10 (4) A 250 V AC 25E3																	
6 (2) A 250 V AC 5E4																	
4 (4) A 250 V AC 5E4																	
3 (1) A 250 V AC 5E4																	
3 (1) A 250 V AC 25E3																	○
21 A 250 V AC 2 HP				○													
21 A 125 V AC 1 HP				○													
16 A 250 V AC 1/2 HP		○			○												
16 A 125 - 250 V AC 1/2 HP									○	○	○	○	○	○	○	○	
16 A 125 V AC 1/3 HP		○			○												
10 A 250 V AC 1/3 HP																	
10 A 125 V AC 1/8 HP																	
3 A 125 - 250 V AC																	○
Terminal type																	
Terminal description		6.3		6.3 straight	6.3 PITCH 5	standing	6.3 PITCH 5				standing	6.3	4.8 x 0.8	4.8 x 0.5 straight		6.3	standing
Contact material		Ag		Ag	Ag	Ag	Au		Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Au
Operating force (N)		≤ 1.0		≤ 1.5	≤ 1.0	≤ 3.5	≤ 1.0		≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 0.5	≤ 4.0	≤ 4.0	≤ 1.7
Operating position (OP) (mm)		14.7 ±0.5		14.7 ±0.5	14.7 ±0.3	14.4 ±0.5	14.7 ±0.5		14.7 ±0.5	14.7 ±0.5	14.7 ±0.5	14.7 ±0.5	14.7 ±0.5	15.2 ±1.2	14.7 ±0.5	14.7 ±0.5	14.7 ±0.5
Difference travel max. (mm)		0.3		0.3	0.3	0.8	0.3		0.3	0.3	0.3	0.3	0.3	0.7	0.3	0.3	0.3
Free position (FP) max. (mm)		16.2		16.2	16.2	16.2	16.2		16.2	16.2	16.2	16.2	16.2	18.8	16.2	16.2	16.2
Permissible total travel position (TP) (mm)		13.2		13.2	13.2	13.2	13.2		13.2	13.2	13.2	13.2	13.2	11.7	13.2	13.2	13.2
Actuator description																	
Lever drawing														L02			
Contact distance (mm)		< 3		< 3	< 3	> 3	< 3		< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
EN 60335 cap. 30 conform "G"		○			○		○										
Stock version												○				○	

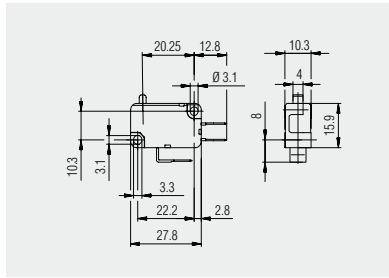


SERIES 1080 - MINIATURE SNAP-ACTION SWITCHES

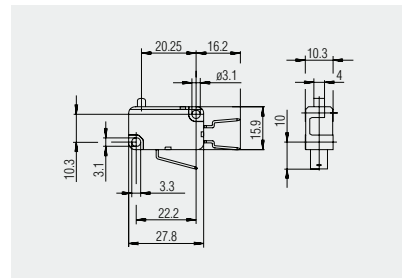
TO 21 (8) A 250 V AC



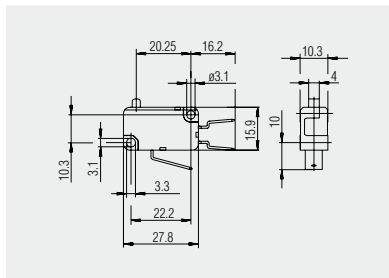
Terminal variants



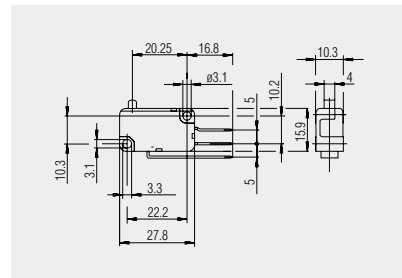
Quick-connect terminal 4.8 x 0.5 special version straight



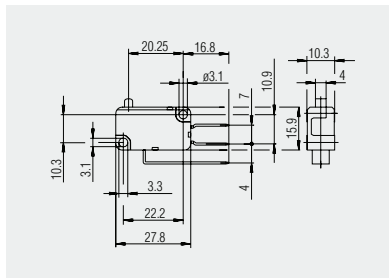
Quick-connect terminal 4.8 x 0.8



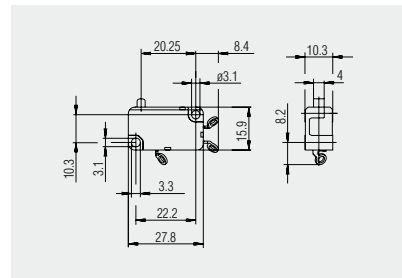
Quick-connect terminal 6.3 x 0.8



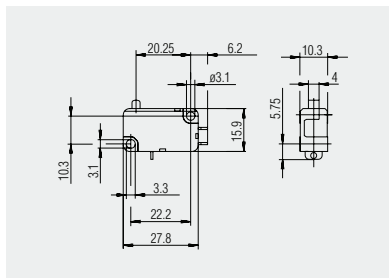
Quick-connect terminal 6.3 x 0.8 PITCH 5



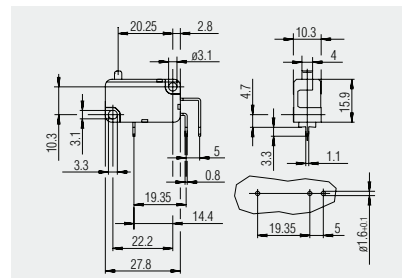
Quick-connect terminal 6.3 x 0.8 PITCH 7



Solder terminal



Short solder terminal



PCB terminal standing

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

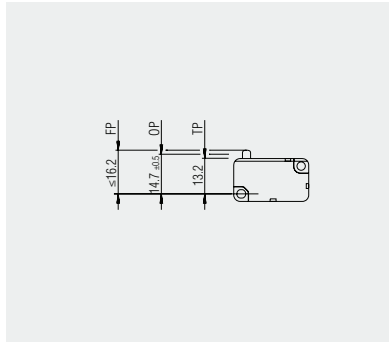
ECO

PUSH IN DRIVE



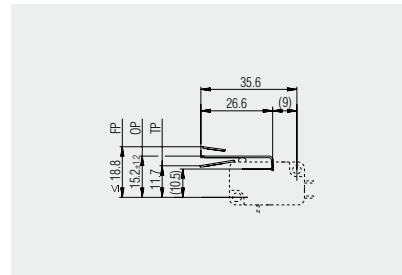
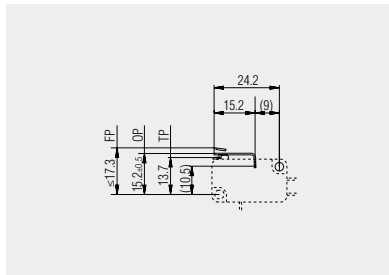
SERIES 1080 - MINIATURE SNAP-ACTION SWITCHES

TO 21 (8) A 250 V AC



FP: free position
OP: operating position
TP: permissible total travel position

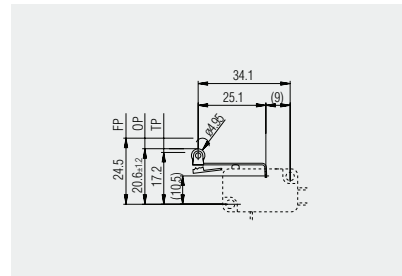
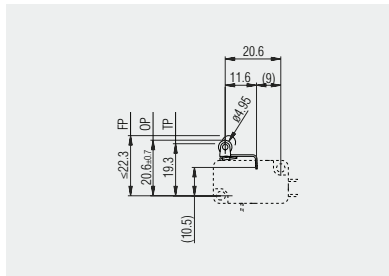
Switching positions



Auxiliary actuators

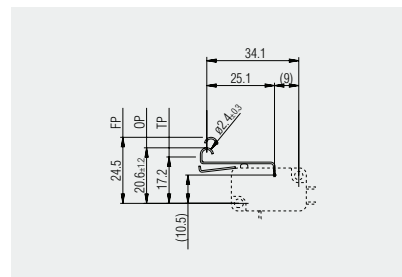
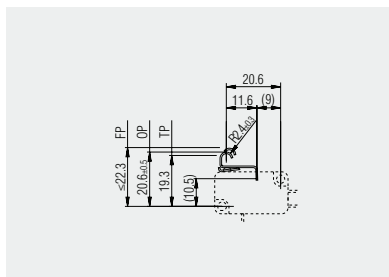
L01: straight lever
191.080.091

L02: straight lever
191.080.101



L11: roller lever
191.079.013

L12: roller lever
191.079.023



L21: simulated roller
191.080.451

L22: simulated roller
191.080.471

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

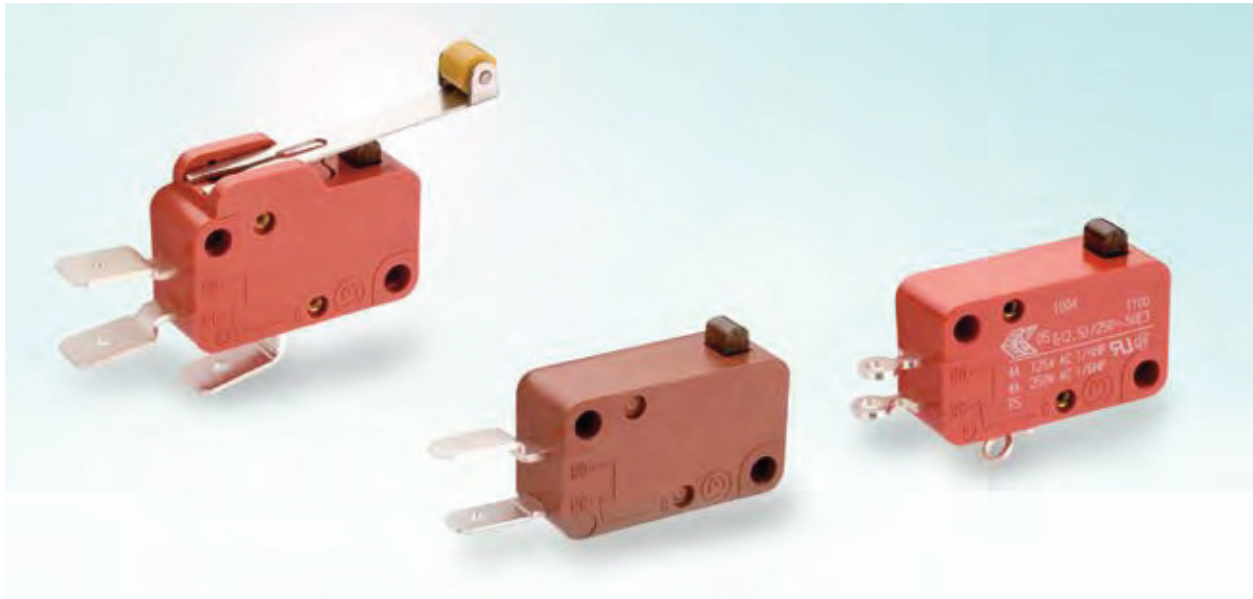
ECO

PUSH/DRIVE



SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

TO 21 (8) A 250 V AC



PRODUCT FEATURES

- Friction contact system whose shearing movement can loosen welding
- Very high inrush currents (capacitive)
- Contact distances less and greater than 3 mm
- Operating forces from 0.2 to 4.2 N

ON REQUEST

- Material conformant with the filament wire test acc. to IEC 60335-1:2001 chap. 30
- Side bearing terminal
- Electrical rating 16 (16) A 250 V 5E4 for normally closed and normally open version




























Design	DIN 41635 A
Mechanical life endurance	5E6 version with lever or contact spacing > 3 mm 10E6 standard version 5E4 version with curved spring steel lever
Contact resistance (new condition)	< 100 mOhm (1 A 12 V DC)
Insulation resistance (new condition)	> 100 MOhm (500 V DC)
Proof tracking	250 PTI
Ambient temperature	-40 °C ... +100 °C on request ... +125 °C ... +85 °C
Flammability	UL 94 (housing: V-0, actuator: V-2) UL 94 V-2
Glow wire test temperature	850 °C
Material additional actuator housing terminals	galvanized steel / spring steel / stainless steel Duroplast type 182 / PA glass fiber-reinforced / PA Latamid silver plated / chromated
Bounce time	< 10 ms
Approval marks	
Suitable for appliances of protection class II under compliance with the installation conditions required on the equipment side	

ROCKER SWITCHES
 PUSHBUTTON SWITCHES
 TOGGLE SWITCHES
 SLIDE SWITCHES
 ROTARY SWITCHES
 FOOT SWITCHES
 TACT AND KEY SWITCHES
 SNAP-ACTION SWITCHES
 MICRO-SIGNAL SWITCHES
 SENSORS
 ECO
 PUSH IN DRIVE



SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

























TO 21 (8) A 250 V AC

	Normally closed contact (SPNC)			Normally open contact (SPNO)			Changeover switch (SPDT momentary)						
	1005.1105	1005.1101	1006.3402	1005.2809	1005.1207	1005.1226	1005.2505	1005.0904	1005.1204	1005.1201	1005.4001	1005.0404	1005.1004
21 (8) A 250 V AC 25E3				○									
20 (4) A 400 V AC 1E4					○							○	○
16 (16) A 250 V AC 5E4						○							
16 (4) A 400 V AC 5E4				○								○	○
16 (4) A 250 V AC 5E4													
16 (4) A 250 V AC 25E3													
12 (12) A 250 V AC 5E4							○						
10 (6) A 250 V AC 5E4	○							○	○			○	○
10 (4) A 400 V AC 1E4		○	○							○			
10 (4) A 250 V AC 5E4													
8 (8) A 250 V AC 5E4				○									
6 (2.5) A 400 V AC 5E4		○	○							○	○		
6 (2.5) A 250 V AC 5E4													
21 A 250 V AC 2 HP				○									
21 A 125 V AC 1 HP				○									
16 A 250 V AC 2 HP						○							
16 A 125 V AC 1 HP													
16 A 125 - 250 V AC 1/2 HP					○		○					○	○
10 A 125 - 250 V AC 1/2 HP	○								○				
10 A 125 - 250 V AC 1/4 HP		○	○							○			
8 A 125 - 250 V AC 1/3 HP													
4 A 125 - 250 V AC 1/6 HP													
Terminal type													
Terminal description	6.3	6.3	6.3	4.8 top side	6.3	6.3 straight	4.8 straight		6.3	6.3			6.3
Contact distance (mm)	Ag > 3	Ag < 3	Ag > 3	Ag > 3	Ag < 3	Ag < 3	Ag > 3	Ag > 3	Ag > 3	Ag < 3	Ag < 3	Ag < 3	Ag < 3
Contact material	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag
Operating force (N)	2.6 - 4.2	1.5 - 2.5	1.6 - 2.8	2.4 - 3.8	2.4 - 3.8	2.4 - 3.8	3.5 - 4.9	2.4 - 3.8	2.4 - 3.8	1.5 - 2.5	1.5 - 2.5	2.4 - 3.8	2.4 - 3.8
Operating position (OP) (mm)	14.6 ± 0.4	14.8 ± 0.4	20.5 ± 0.4	14.5 ± 0.3	14.7 ± 0.5	14.7 ± 0.5	14.4 ± 0.3	14.4 ± 0.3	14.4 ± 0.3	14.7 ± 0.5	14.7 ± 0.5	14.7 ± 0.5	14.7 ± 0.5
Difference travel max. (mm)	1.0	0.3	1.0	1.2	0.3	0.3	1.2	1.2	1.2	0.3	0.3	0.3	0.3
Free position (FP) max. (mm)	16	16	22.0	16	16	16	16	16	16	16	16	16	16
Permissible total travel position (TP) (mm)	13.4	13.4	19.3	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
Actuator description													
Lever drawing			L21										
Miscellaneous													
Stock version	○	○			○				○			○	○



SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

TO 21 (8) A 250 V AC
















	Changeover switch (SPDT momentary)														
	1006.1514	1005.0507	1005.1010	1004.0509	1005.0101	1005.0401	1005.1001	1005.3501	1006.0701	1006.0901	1006.1011	1006.1101	1006.1201	1006.1301	1006.1401
															
21 (8) A 250 V AC 25E3															
20 (4) A 400 V AC 1E4	o														
16 (16) A 250 V AC 5E4															
16 (4) A 400 V AC 5E4	o														
16 (4) A 250 V AC 5E4		o	o												
16 (4) A 250 V AC 25E3				o											
12 (12) A 250 V AC 5E4															
10 (6) A 250 V AC 5E4	o	o													
10 (4) A 400 V AC 1E4					o	o	o	o	o	o	o	o	o	o	o
10 (4) A 250 V AC 5E4				o											
8 (8) A 250 V AC 5E4			o												
6 (2.5) A 400 V AC 5E4					o	o	o	o	o	o	o	o	o	o	o
6 (2.5) A 250 V AC 5E4															
21 A 250 V AC 2 HP															
21 A 125 V AC 1 HP															
16 A 250 V AC 2 HP															
16 A 125 V AC 1 HP															
16 A 125 - 250 V AC 1/2 HP	o	o		o											
10 A 125 - 250 V AC 1/2 HP			o												
10 A 125 - 250 V AC 1/4 HP					o	o	o	o	o	o	o	o	o	o	o
8 A 125 - 250 V AC 1/3 HP															
4 A 125 - 250 V AC 1/6 HP															
Terminal type															
Terminal description	6.3		6.3		M3		6.3					6.3	6.3	6.3	6.3
Contact distance (mm)	Ag < 3	Ag < 3	Ag > 3	Ag < 3	Ag < 3	Ag < 3	Ag < 3	Ag < 3	Ag < 3	Ag < 3	Ag < 3	Ag < 3	Ag < 3	Ag < 3	Ag < 3
Contact material	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag
Operating force (N)	1.2 - 2.1	2.4 - 3.8	2.4 - 3.8	0.8 - 1.8	1.5 - 2.5	1.5 - 2.5	1.5 - 2.5	1.5 - 2.5	1.5 - 2.5	0.8 - 1.4	0.7 - 1.25	1.5 - 2.5	1.5 - 2.5	0.3 - 0.55	0.8 - 1.4
Operating position (OP) (mm)	20.8 ±1.2	14.7 ±0.5	14.4 ±0.3	14.7 ±0.5	14.7 ±0.5	14.7 ±0.5	14.7 ±0.5	14.7 ±0.5	20.8 ±0.5	15.4 ±1.2	20.8 ±1.2	15.3 ±0.5	20.8 ±0.5	15.7 ±2.7	15.4 ±1.2
Difference travel max. (mm)	0.9	0.3	1.2	0.1 - 0.25	0.3	0.3	0.3	0.3	0.3	0.7	0.9	0.3	0.3	1.8	0.7
Free position (FP) max. (mm)	23.5	16	16	16	16	16	16	16	22.1	18.2	23.5	16.6	22.1	21.5	18.2
Permissible total travel position (TP) (mm)	18	13.4	13.4	13.4	13.4	13.4	13.4	13.4	19.5	12.6	18	14	19.5	9.8	12.6
Actuator description															
Lever drawing	L12								L11	L02	L12	L01	L11	L04	L02
Miscellaneous				milled bearing blade											
Stock version					o	o	o		o	o			o	o	o

ROCKER SWITCHES
PUSHBUTTON SWITCHES
TOGGLE SWITCHES
SLIDE SWITCHES
ROTARY SWITCHES
FOOT SWITCHES
TACT AND KEY SWITCHES
SNAP-ACTION SWITCHES
MICRO-SIGNAL SWITCHES
SENSORS
ECO
PUSH IN DRIVE



SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

TO 21 (8) A 250 V AC

	Changeover switch (SPDT momentary)						
	1006.1511	1006.1801	1006.4103	1006.4203	1004.4601	1004.0402	1004.1002
							
21 (8) A 250 V AC 25E3							
20 (4) A 400 V AC 1E4							
16 (16) A 250 V AC 5E4							
16 (4) A 400 V AC 5E4							
16 (4) A 250 V AC 5E4							
16 (4) A 250 V AC 25E3							
12 (12) A 250 V AC 5E4							
10 (6) A 250 V AC 5E4							
10 (4) A 400 V AC 1E4	○	○	○	○			
10 (4) A 250 V AC 5E4					○		
8 (8) A 250 V AC 5E4							
6 (2.5) A 400 V AC 5E4	○	○	○	○			
6 (2.5) A 250 V AC 5E4						○	○
21 A 250 V AC 2 HP							
21 A 125 V AC 1 HP							
16 A 250 V AC 2 HP							
16 A 125 V AC 1 HP							
16 A 125 - 250 V AC 1/2 HP							
10 A 125 - 250 V AC 1/2 HP							
10 A 125 - 250 V AC 1/4 HP	○	○	○	○			
8 A 125 - 250 V AC 1/3 HP					○		
4 A 125 - 250 V AC 1/6 HP						○	○
Terminal type							
Terminal description	6.3	6.3			6.3		6.3
Contact distance (mm)	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Contact material	Ag	Ag	Ag	Ag	Ag	Ag	Ag
Operating force (N)	0.7 - 1.25	1.5 - 2.5	1.5 - 2.5	1.5 - 2.5	0.5 - 1.1	0.2 - 0.6	0.2 - 0.6
Operating position (OP) (mm)	20.8 ±1.2	22 ±1	20.8 ±0.5	20.8 ±0.5	20.8 ±0.5	14.7 ±0.5	14.7 ±0.5
Difference travel max. (mm)	0.9	0.6	0.3	0.3	0.3	0.3	0.3
Free position (FP) max. (mm)	23.5	24.5	22.1	22.1	22.1	16	16
Permissible total travel position (TP) (mm)	18	18.5	19.5	19.5	19.5	13.4	13.4
Actuator description							
Lever drawing	L12	L31	L11	L11	L11		
Miscellaneous					milled bearing blade	milled bearing blade	milled bearing blade
Stock version	○					○	○

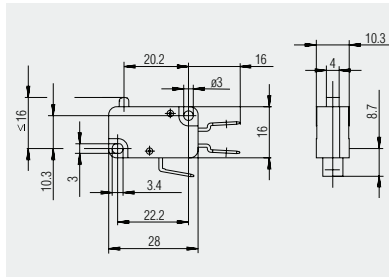


SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

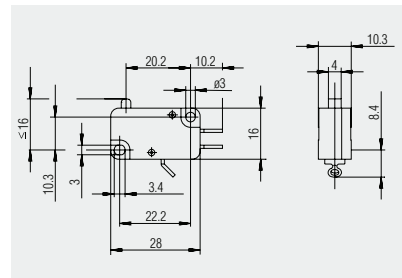
TO 21 (8) A 250 V AC



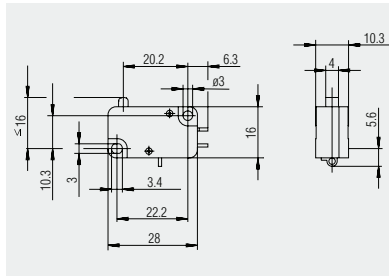
Basic type 1005



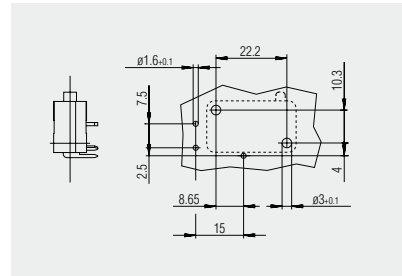
 Quick-connect terminal 6.3 x 0.8



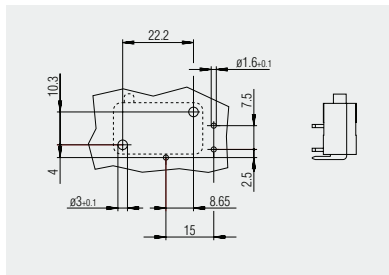
 Solder terminal



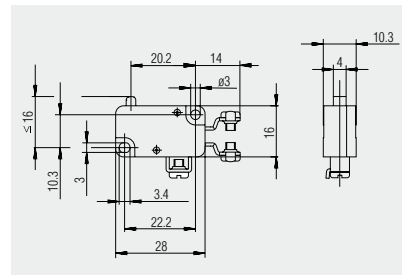
 Short solder terminal




 PCB terminal (cover side)
right angled



 PCB terminal (base side)
left angled



 Screw terminal M3

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH/DRIVE

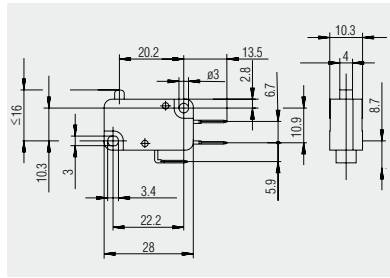


SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

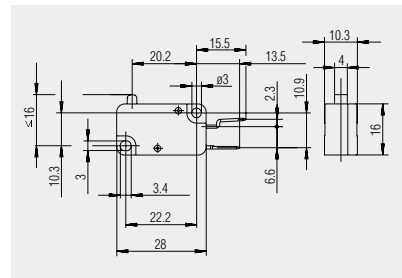
TO 21 (8) A 250 V AC



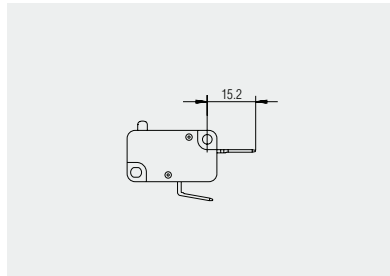
Basic type 1005



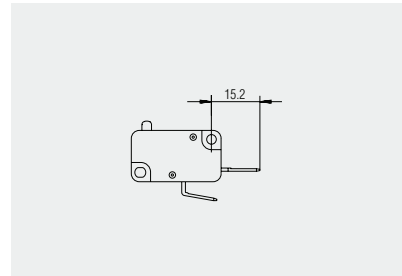
Quick-connect terminal 4.8 x 0.8 straight



Quick-connect terminal 4.8 x 0.8 top side



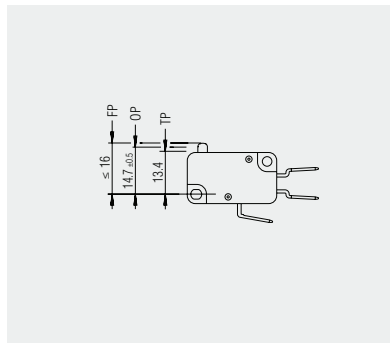
Quick-connect terminal 6.3 x 0.8 normally open contact version



Quick-connect terminal 6.3 x 0.8 normally closed contact version



Basic types 1004 and 1005 switching positions



FP: free position

OP: operating position

TP: permissible total travel position

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH/DRIVE

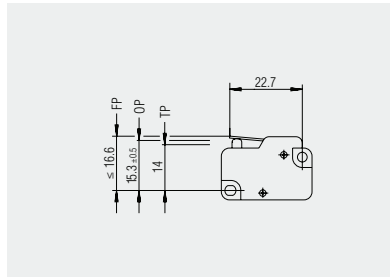


SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

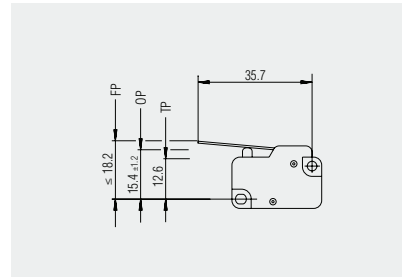
TO 21 (8) A 250 V AC



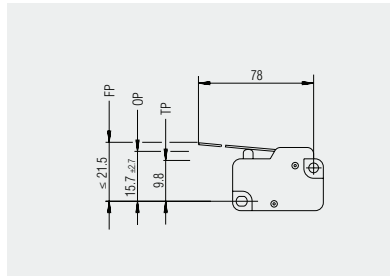
Basic type 1006
auxiliary actuator



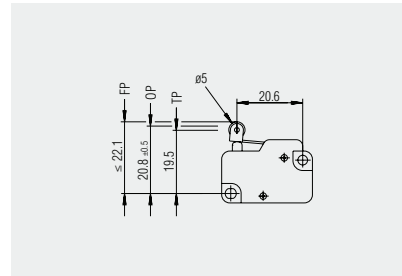
L01: straight lever



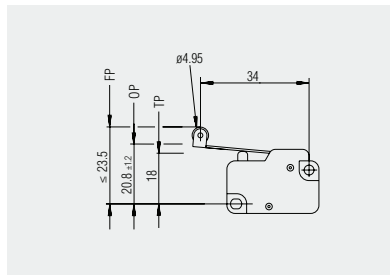
L02: straight lever



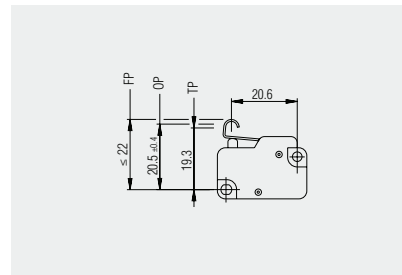
L04: straight lever



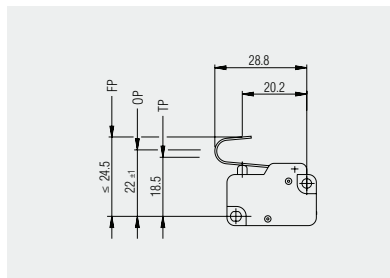
L11: roller lever



L12: roller lever



L21: simulated roller



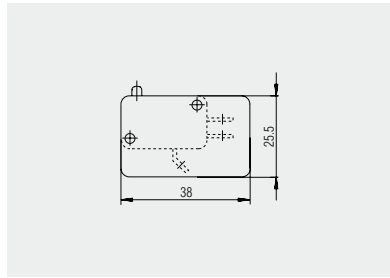
L31: spring lever

ROCKER SWITCHES
PUSHBUTTON SWITCHES
TOGGLE SWITCHES
SLIDE SWITCHES
ROTARY SWITCHES
FOOT SWITCHES
TACT AND KEY SWITCHES
SNAP-ACTION SWITCHES
MICRO-SIGNAL SWITCHES
SENSORS
ECO
PUSH IN DRIVE

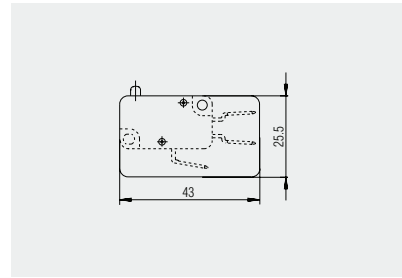


SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

TO 21 (8) A 250 V AC

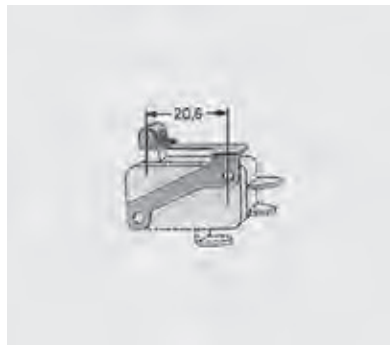


Insulating plate for solder terminal
0.5 mm: 231.009.011



Insulating plate for quick-connect terminal
0.5 mm: 231.010.011
0.8 mm: 231.010.021

Additional parts



Stainless spring steel

Lever 20.6 long with roller diameter
5 out of PA yellow (to be mounted
lateral with the switch using screws)

191.013.013

Further information under

WWW.MARQUARDT-SWITCHES.COM

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

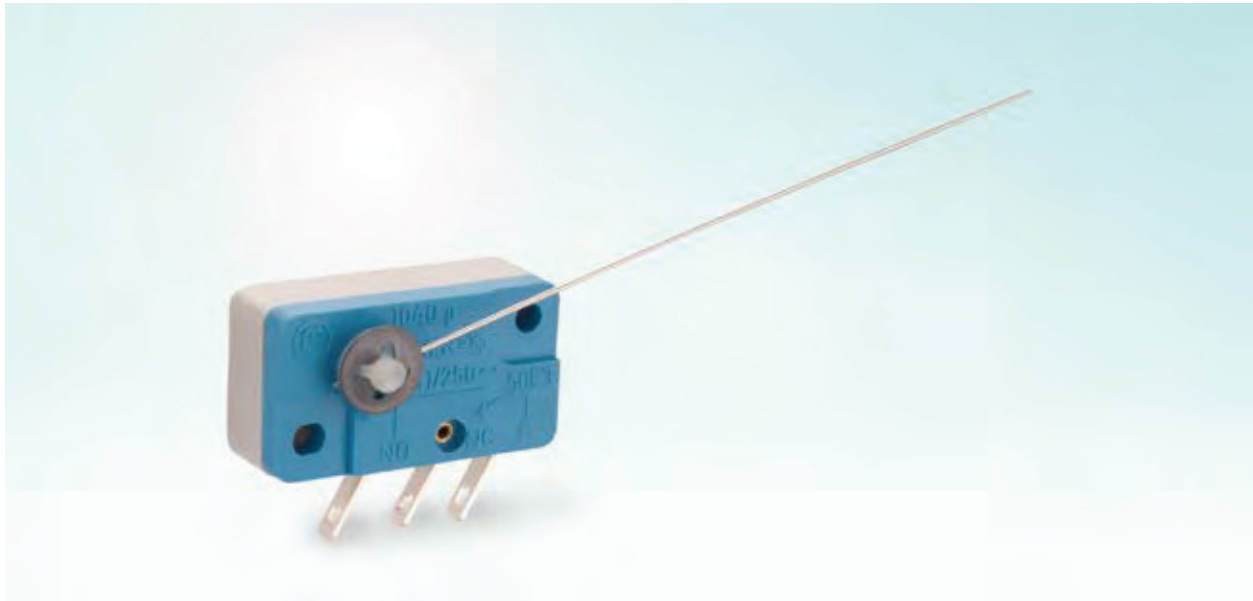
ECO

PUSH/DRIVE



SERIES 1040 - ROTARY SHAFT SNAP-ACTION SWITCHES

TO 4 (1) A 250 V AC



PRODUCT FEATURES

- Extremely low switching torques
- Spring steel auxiliary actuators which are easily adaptable to customer-specific installation conditions

ON REQUEST

- Other auxiliary actuators
- Normally open contact version

Mechanical life endurance	5E6
Contact resistance (new condition)	< 100 mOhm (1 A 12 V DC)
Insulation resistance (new condition)	> 100 MOhm (500 V DC)
Proof tracking	250 PTI
Protection type	IP 40 actuator side IP 00 terminal side
Ambient temperature	-35 °C ... +85 °C
Flammability	UL 94 V-2
Glow wire test temperature	850 °C
Material	actuator additional actuator housing terminals
	PA glass fiber-reinforced stainless steel spring steel PA glass fiber-reinforced / PETP silver plated
Contact distance	< 3 mm
Approval marks	

Suitable for appliances of protection class II under compliance with the installation conditions required on the equipment side


ROTARY SWITCHES
 PUSHBUTTON SWITCHES
 TOGGLE SWITCHES
 SLIDE SWITCHES
 ROTARY SWITCHES
 FOOT SWITCHES
 TACT AND KEY SWITCHES
 SNAP-ACTION SWITCHES
 MICRO-SIGNAL SWITCHES
 SENSORS
 ECO
 PUSH/DRIVE



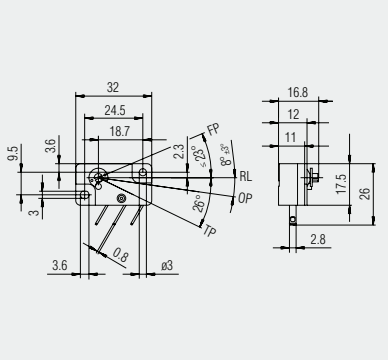
SERIES 1040 - ROTARY SHAFT SNAP-ACTION SWITCHES

TO 4 (1) A 250 V AC

	4 (1) A 250 V AC 5E4	Terminal type	Terminal description	Contact material	Stock version
Changeover switch (SPDT momentary)					
1040.0111	○		2.8	Ag	○
1040.0114	○		2.8	Ag	○
1040.0301	○		2.8	Au	



1040.0111



Enclosed loose: actuating lever 80 long, diameter 0.6 mm made of stainless spring steel and fastening disc

FP: free position $\leq 23^\circ$

OP: operating position $8^\circ \pm 3^\circ$

TP: permissible total travel position 26°

Pretravel angle max. 34°


Overtravel angle min. 15°

Difference angle $5^\circ-15^\circ$

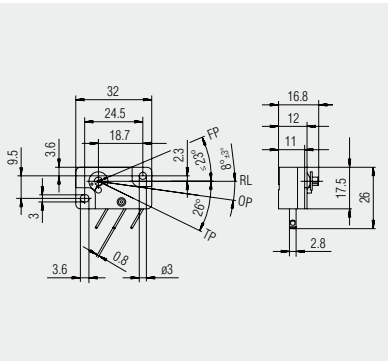
Switch actuating torque 0.6-0.9 Nmm

End actuating torque min. 0.2 Nmm

Reset torque min 0.15 Nmm



1040.0114



Enclosed loose: actuating lever 80 long, diameter 0.6 mm made of stainless spring steel and fastening disc

FP: free position $\leq 23^\circ$

OP: operating position $8^\circ \pm 3^\circ$

TP: permissible total travel position 26°

Pretravel angle max. 34°


Overtravel angle min. 15°

Difference angle $5^\circ-15^\circ$

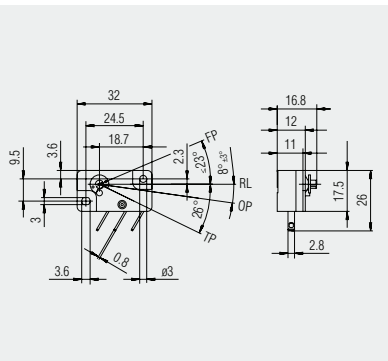
Switch actuating torque 0.9-1.7 Nmm

End actuating torque min. 0.2 Nmm

Reset torque min. 0.15 Nmm



1040.0301



Without lever and fastening disc

FP: free position $\leq 23^\circ$

OP: operating position $8^\circ \pm 3^\circ$

TP: permissible total travel position 46°

Pretravel angle max. 34°

Overtravel angle min. 35°

Difference angle $5^\circ-15^\circ$

Switch actuating torque 0.6-0.9 Nmm

End actuating torque ≥ 0 Nmm

Reset torque ≥ 0 Nmm



SERIES 1010 - OPEN SNAP-ACTION SWITCHES

TO 6 (2) A 250 V AC



PRODUCT FEATURES

- Powerful snap-action switch with C-spring contact system according to design DIN 41635C
- High switching reliability due to large contact forces directly after switching
- Small size, large travel and difference travel
- Short bounce time
- Contact system insensitive to vibrations

ON REQUEST

- Extended overtravel
- Special base forms
- Special actuating cams
- In addition to a wide range of normally closed contacts, normally open contacts and changeover switches and spring sets without snap function (basic type 1017) are available

Design	DIN 41635 C
Contact resistance (new condition)	< 100 mOhm (1 A 12 V DC)
Insulation resistance (new condition)	> 100 MOhm (500 V DC)
Proof tracking	250 PTI
Protection type	IP 00
Ambient temperature	-20 °C ... +85 °C ... 120 °C (basic type 1014)
Flammability	UL 94 V-2 or UL 94 HB
Glow wire test temperature	850 °C
Material actuator housing terminals	spring steel / PA glass fiber-reinforced / PA / metal (only 1017.0153) PA glass fiber-reinforced / PA silver plated
Bounce time	< 5 ms
Approval marks	

Suitable for appliances of protection class II under compliance with the installation conditions required on the equipment side

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH IN DRIVE



SERIES 1010 - OPEN SNAP-ACTION SWITCHES

TO 6 (2) A 250 V AC

	6 (2) A 250 V AC 25E3	2 (0.5) A 250 V AC 20E4	2 (0.5) A 250 V AC 5E4	2 A 12 V DC 10E4	1 A 24 V DC 10E4	0.5 A 15 V 5E4	0.1 A 24 V DC 5E4	30 mA 12 V 5E4	Terminal type	Terminal description	Contact material	Operating force (N)	Operating position (OP) (mm)	Difference travel max. (mm)	Free position (FP) max. (mm)	Permissible total travel position (TP) (mm)	Actuator description	Mechanical life endurance	Miscellaneous	Stock version
Normally closed contact (SPNC)																				
1010.7601		o								9.5 long	Ag	0.25 - 0.6	2.2 ±0.6	0.9	0.4	3.5		1E6		
Normally open contact (SPNO)																				
1010.7401		o								9.5 long	Ag	0.25 - 0.6	2.2 ±0.6	0.9	0.4	3.5		1E6		
1010.7402		o								9.5 long	Ag	0.45 - 1.05	2.2 ±0.6	0.9	0.4	3.5		1E6		
1017.0801						o				9.2 long	CuBe silver plated	0.15 - 0.5	2.2 ±0.6		0	3.2		1E6	without approval mark	o
1017.5701						o					CuSn silver plated	0.15 - 0.5	1.4 ±0.6		3.6	0.4		1E6	without approval mark	
1017.0851							o			9.2 long	Au	0.15 - 0.5	2.2 ±0.6		0	3.2		1E6	without approval mark	
Changeover switch (SPDT momentary)																				
1010.9705	o	o									Au	0.45 - 1.05	3.8 ±0.6	0.9	6.6	2		10E4		
1010.9752	o	o									Ag	0.45 - 1.05	6.9 ±0.6	0.9	9.7	5.1		10E4		
1010.9802	o	o									Ag	0.45 - 1.05	3.8 ±0.6	0.9	6.6	2		10E4		
1010.9852	o	o									Ag	0.45 - 1.05	6.9 ±0.6	0.9	9.7	5.1		10E4		o
1010.0101		o								6.5 long	Ag	0.25 - 0.6	2.2 ±0.6	0.9	0.4	3.5		1E6	without approval mark	o
1010.3001		o								6.5 long	Ag	0.25 - 0.6	0.9 ±0.6	0.9	3.6	0.2		1E6		
1010.4402		o								straight	Ag	0.25 - 0.6	1.3 ±0.6	0.9	4.1	0		1E6	small base without approval mark	
1010.0304		o								9.5 long	Ag	0.25 - 0.6	2.2 ±0.6	0.9	0.4	3.5		1E6		
1010.2003		o								9.5 long	Au	0.45 - 1.05	2.2 ±0.6	0.9	0.4	3.5		1E6		
1010.4103		o								straight	Au	0.25 - 0.6	2.2 ±0.6	0.9	0.4	3.5		1E6	without approval mark	o
1010.6002		o								standing	Au	0.45 - 1.05	11.2 ±0.6	0.9	13.8	9.9		1E6		o
1010.6003		o								standing	Ag	0.25 - 0.6	11.2 ±0.6	0.9	13.8	9.9		1E6		o
1010.7102		o								6.5 long	Ag	0.45 - 1.05	2.2 ±0.6	0.9	0.4	3.5		1E6	without approval mark	
1010.7172		o								6.5 long	Au	0.45 - 1.05	0.9 ±0.6	0.9	3.6	0.2		1E6	without approval mark	
1010.7352		o								9.5 long	Ag	0.45 - 1.05	0.9 ±0.6	0.9	3.6	0.2		1E6		
1010.8102		o								straight	Ag	0.45 - 1.05	2.2 ±0.6	0.9	0.4	3.5		1E6	without approval mark	
1014.6151			o	o						standing	Au	0.3 - 0.8	6.6 ±0.5	0.6	8.6	5.3		50E4	without approval mark	
Changeover switch with OFF position in the center (SPDT momentary - Center OFF)																				
1017.0153						o				9.2 long	Au		≤ 2.1		0	0.5		1E6	without approval mark operating range max. 4.2	

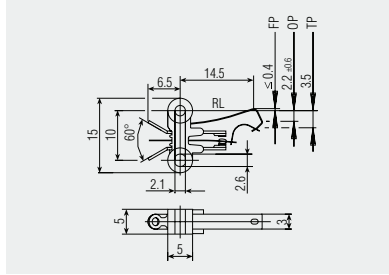


SERIES 1010 - OPEN SNAP-ACTION SWITCHES

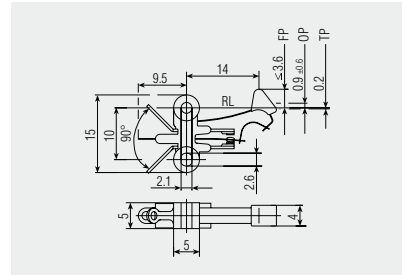
TO 6 (2) A 250 V AC



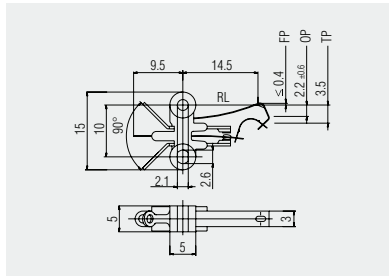
Basic type 1010



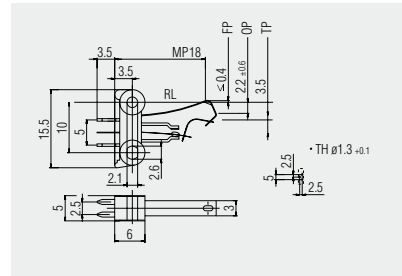
Solder terminal
30° angled



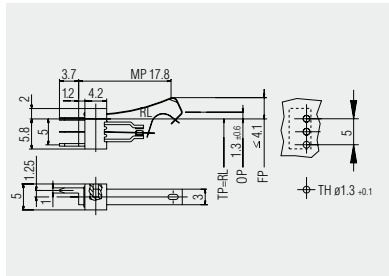
Solder terminal
45° angled



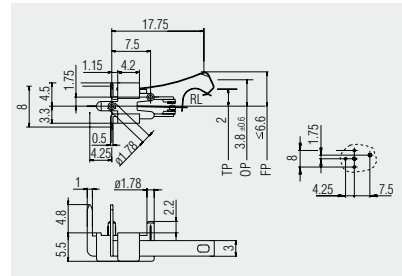
Solder terminal
45° angled



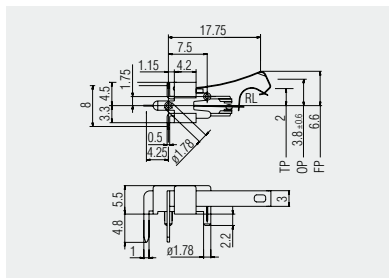
PCB terminal
straight



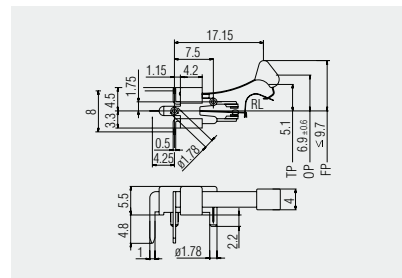
PCB terminal
straight



PCB terminal
left angled



PCB terminal
right angled
1010.9802



PCB terminal
right angled
1010.9852

ROCKER SWITCHES
 PUSHBUTTON SWITCHES
 TOGGLE SWITCHES
 SLIDE SWITCHES
 ROTARY SWITCHES
 FOOT SWITCHES
 TACT AND KEY SWITCHES
 SNAP-ACTION SWITCHES
 MICRO-SIGNAL SWITCHES
 SENSORS
 ECO
 PUSH/DRIVE

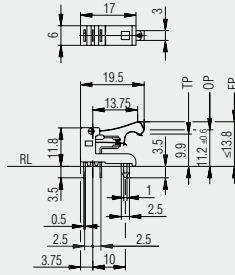


SERIES 1010 - OPEN SNAP-ACTION SWITCHES

TO 6 (2) A 250 V AC



Basic type 1010

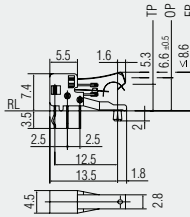


PCB terminal vertical:

A switch actuation vertical to the PCB can be implemented in a confined space with this version.



Basic type 1014



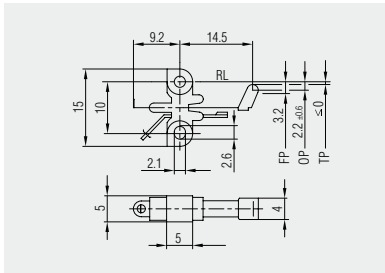
Vertical PCB terminal:

According to the same functional principle as basic type 1010, but in smaller size.

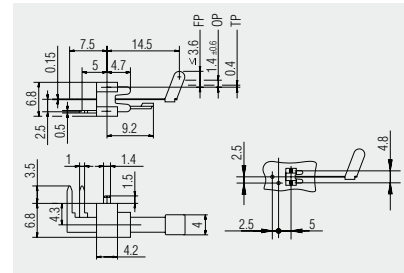
This basic type is designed for low voltages and has no approval mark.



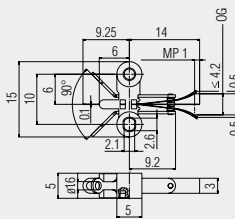
Basic type 1017
without snap function



Solder terminal
normally open contact version



PCB terminal left angled



Changeover switch with OFF position
in the center

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

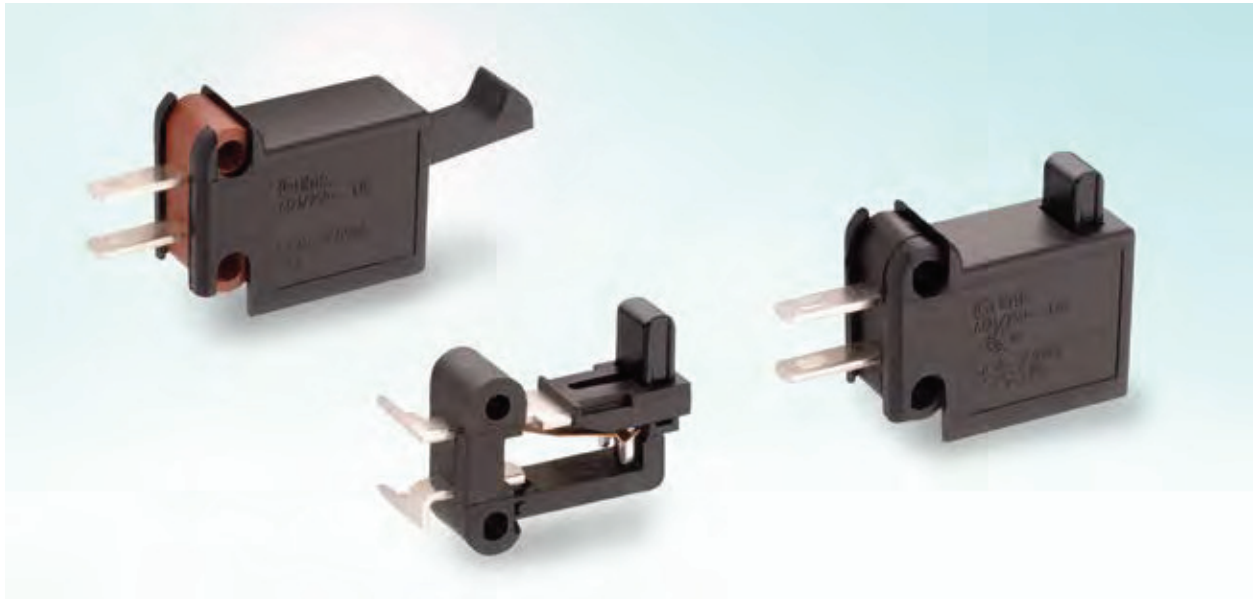
ECO

PUSH/DRIVE



SERIES 1019 - SINGLE-POLE SNAP-ACTION SWITCHES

TO 6 (2) A 250 V AC






PRODUCT FEATURES

- Snap-action switches with and without housing
- Contact distance > 3 mm
- Normally open contact and normally closed contact version

ON REQUEST

- Gold-plated contacts
- Customized lever variants

Mechanical life endurance	20E4
Contact resistance (new condition)	< 100 mOhm (1 A 12 V DC)
Insulation resistance (new condition)	> 100 MOhm (500 V DC)
Proof tracking	250 PTI
Ambient temperature	-40 °C ... +85 °C
Flammability	UL 94 (socket, lever: V-0, actuator: V-2)
Glow wire test temperature	850 °C
Material actuator housing terminals	PA glass fiber-reinforced / PA PA glass fiber-reinforced silver plated
Contact distance	> 3 mm
Approval marks	 /  housing variants / 
Suitable for appliances of protection class II under compliance with the installation conditions required on the equipment side	

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS




















ECO

PUSH/DRIVE



SERIES 1019 - SINGLE-POLE SNAP-ACTION SWITCHES

TO 6 (2) A 250 V AC

		6 (2) A 250 V AC 1E4	5 A 125 - 250 V AC	Terminal type	Terminal description	Contact material	Operating force (N)	Operating position (OP) (mm)	Difference travel max. (mm)	Free position (FP) max. (mm)	Permissible total travel position (TP) (mm)	Actuator description	Miscellaneous	Stock version
Normally closed contact (SPNC)														
1019.3101	○			2.8	Ag	0.9 - 1.7	6.3 ±0.8	2.4	1	10.5				
1019.5501	○	○		2.8	Ag	0.9 - 1.7	6.3 ±0.8	2.4	1	10.5		with housing		
1019.5601	○	○		2.8	Ag	1.5 - 3	2.4 ±0.6	1.2	4.7	0		with housing	○	
Normally open contact (SPNO)														
1019.0101	○			2.8	Ag	1.5 - 3	2.4 ±0.6	1.2	4.7	0.5				
1019.0201	○				Ag	1.5 - 3	2.4 ±0.6	1.2	4.7	0.5				
1019.0301	○				Ag	1.5 - 3	2.4 ±0.6	1.2	4.7	0.5				
1019.2101	○			2.8	Ag	0.9 - 1.7	6.3 ±0.8	2.4	1	10.5				○
1019.5101	○	○		2.8	Ag	1.5 - 3	2.4 ±0.6	1.2	4.7	0		with housing	○	
1019.5401	○	○		2.8	Ag	0.9 - 1.7	6.3 ±0.8	2.4	1	10.5		with housing		

Further information under

WWW.MARQUARDT-SWITCHES.COM

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH/DRIVE

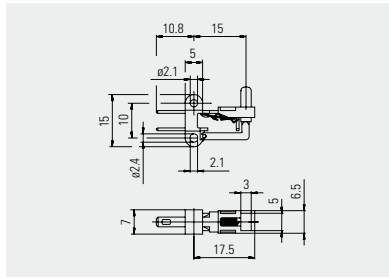


SERIES 1019 - SINGLE-POLE SNAP-ACTION SWITCHES

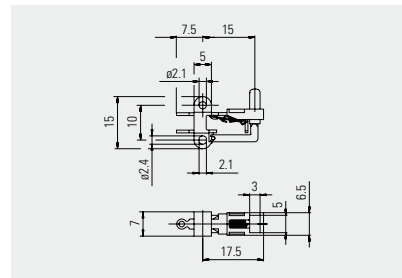
TO 6 (2) A 250 V AC



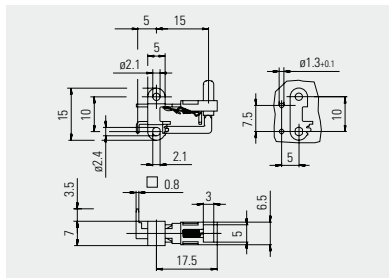
Open design with pushbutton



Quick-connect terminal 2.8 x 0.8



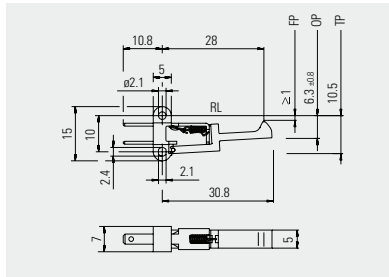
Solder terminal



PCB terminal left angled



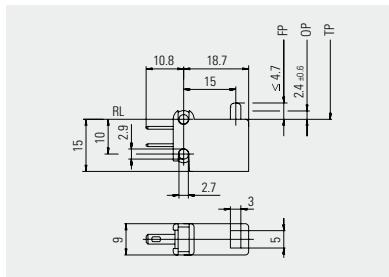
Open form with lever



Quick-connect terminal 2.8 x 0.8



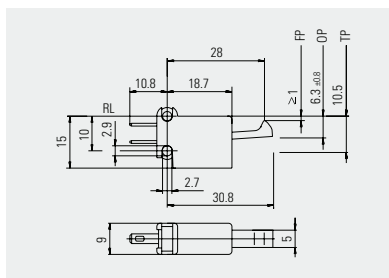
Closed design with pushbutton



Quick-connect terminal 2.8 x 0.8



Closed design with lever



Quick-connect terminal 2.8 x 0.8

ROCKER SWITCHES

PUSHBUTTON SWITCHES

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SENSORS

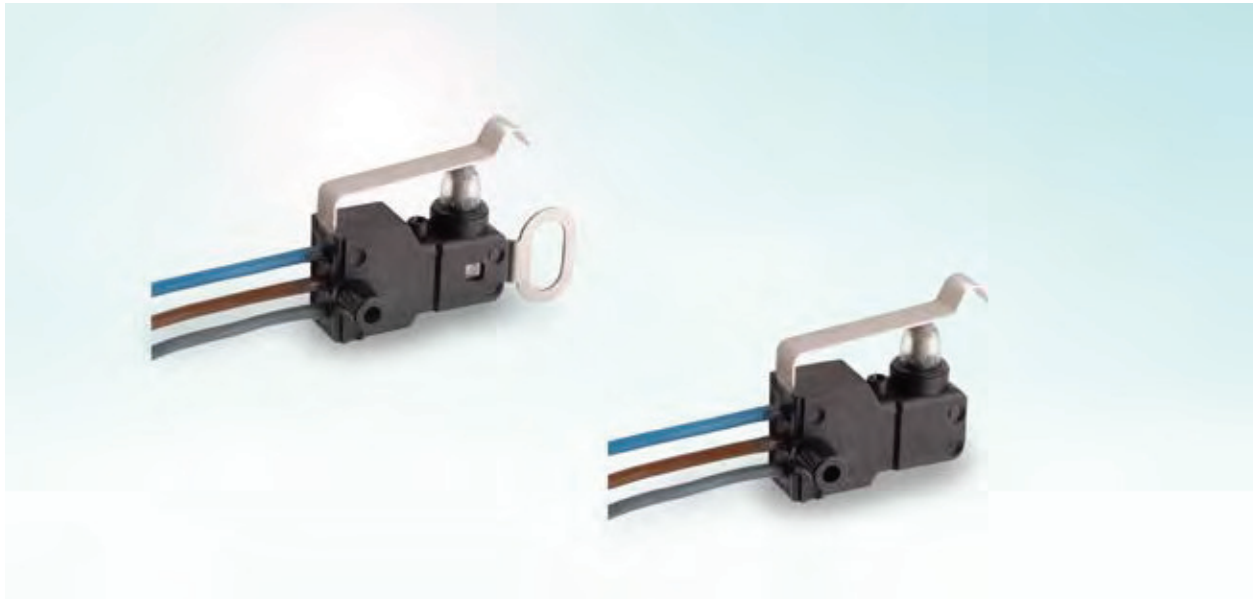
ECO

PUSH IN DRIVE



SERIES 1022 - SNAP-ACTION SWITCHES IP 67

TO 4 A 12 V DC



PRODUCT FEATURES

- Dust and water protection actuator and terminal side
- Ice-proof lever bearing
- Small size, large travels
- High switching reliability due to great contact forces directly after switching
- Series with different fastening possibilities

ON REQUEST

- Customized assembly with connecting plugs
- Other auxiliary actuators


Mechanical life endurance	10E4
Contact resistance (new condition)	< 100 mOhm (1 A 12 V DC)
Insulation resistance (new condition)	> 100 MOhm (500 V DC)
Proof tracking	250 PTI
Protection type	IP 67
Ambient temperature	-40 °C ... +85 °C
Flammability	UL 94 V-2
Material	actuator additional actuator housing
	POM / silicone rubber stainless steel spring steel PBTP
Bounce time	< 5 ms
Contact distance	< 3 mm
Contact material	gold plated
Terminal description	500 mm long (terminal wires 0.5 mm ² molded with switch, tinned wire ends)



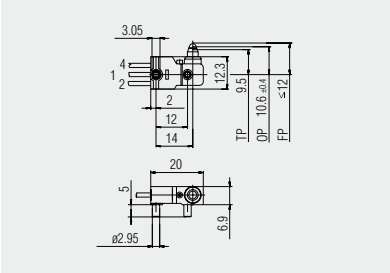
SERIES 1022 - SNAP-ACTION SWITCHES IP 67

TO 4 A 12 V DC

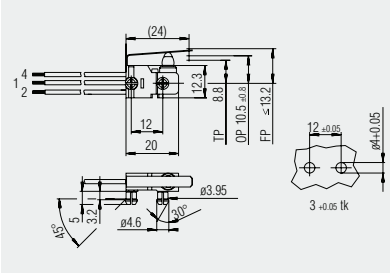
	4 A 12 V DC 10E4	2 A 24 V DC 10E4	Terminal type	Contact material	Operating force (N)	Operating position (OP) (mm)	Difference travel max. (mm)	Free position (FP) max. (mm)	Permissible total travel position (TP) (mm)	Actuator description	Lever drawing	Miscellaneous	Stock version
Changeover switch (SPDT momentary)													
1022.0101	○	○	⌋	Au	< 2.5	10.6 ±0.4	0.6	12	9.5	□		pin right 5 long	
1022.2201	○	○	⌋	Au	< 2.5	10.5 ±0.8	1.0	13.2	8.8	┌	L01	rest pin right	
1022.4501	○	○	⌋	Au	< 2.5	13.4 ±0.9	1.0	15.5	11.6	┌	L21	1 pin right side adjustable operating position by top side metal eye ±2	○
1022.4502	○	○	⌋	Au	< 2.5	13.4 ±0.9	1.0	15.5	11.6	┌	L21	1 pin left side adjustable operating position by top side metal eye ±2	




Basic type 1022



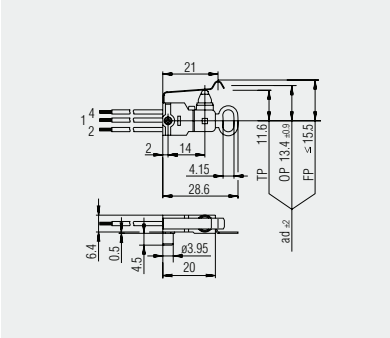
with pushbutton

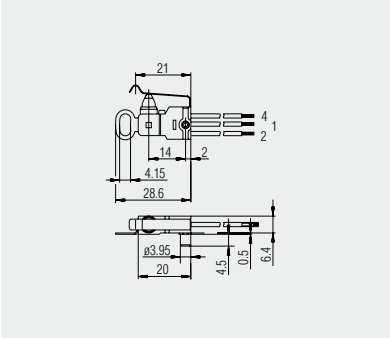


L01: straight lever and snap pin



Basic type 1022





L21: simulated roller lever, on centering pin and a metal eye.

With the elongated hole fastening the switch can be swiveled around the pin and then fixed with a screw. This makes the operating position adjustable by ±2 mm.

ROCKERSwitches
 PUSHBUTTON SWITCHES
 TOGGLE SWITCHES
 SLIDE SWITCHES
 ROTARY SWITCHES
 FOOT SWITCHES
 TACT AND KEY SWITCHES
 SNAP-ACTION SWITCHES
 MICRO-SIGNAL SWITCHES
 SENSORS
 ECO
 PUSH IN DRIVE



SERIES 1117 - SNAP-ACTION SWITCHES

TO 16 (6) A 400 V AC



PRODUCT FEATURES

- Double interrupting jump contact switching system
- Contact distance > 3 mm
- Material conformant with the filament wire test acc. to IEC 60 335-1:2001 chap. 30 and UL 94 V-0
- Large overtravel
- Actuator can be approached from all directions
- Normally open contact and normally closed contact versions

ON REQUEST

- Customized versions
- Changeover basic type 1115 and 1116

Mechanical life endurance	10E4
Contact resistance (new condition)	< 100 mOhm (1 A 12 V DC)
Insulation resistance (new condition)	> 100 MOhm (500 V DC)
Proof tracking	250 PTI
Protection type	IP 40
Ambient temperature	-40 °C ... +85 °C
Flammability	UL 94 V-0
Glow wire test temperature	850 °C
Material actuator housing terminals	PA glass fiber-reinforced PA glass fiber-reinforced silver plated
Contact material	Ag
Contact distance	≥ 3 mm
Approval marks	
Suitable for appliances of protection class II under compliance with the installation conditions required on the equipment side	

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO


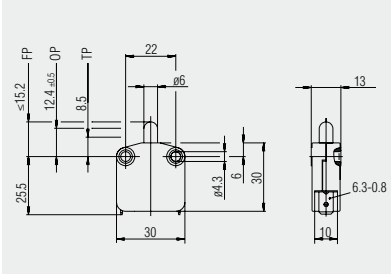
PUSH'DRIVE



SERIES 1117 - SNAP-ACTION SWITCHES

TO 16 (6) A 400 V AC

	16 (6) A 400 V AC 1E4	12 A 250 V AC 1/2 HP	12 A 125 V AC 1/6 HP	Terminal type	Terminal description	Contact distance (mm)	Operating force (N)	Operating position (OP) (mm)	Difference travel max. (mm)	Free position (FP) max. (mm)	Permissible total travel position (TP) (mm)	Stock version
Normally closed contact (SPNC)												
1117.0206	○	○	○		6.3	≥ 3	3.5 ± 0.5	12.4 ± 0.5	2.6	15.2	8.5	○
Normally open contact (SPNO)												
1117.0106	○	○	○		6.3	≥ 3	3.5 ± 0.5	12.4 ± 0.5	2.6	15.2	8.5	○

Quick-connect terminal 6.3 x 0.8

Basic type 1117

ROCKERS SWITCHES
 PUSHBUTTON SWITCHES
 TOGGLE SWITCHES
 SLIDE SWITCHES
 ROTARY SWITCHES
 FOOT SWITCHES
 TACT AND KEY SWITCHES
SNAP-ACTION SWITCHES
 MICRO-SIGNAL SWITCHES
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 ECO
 PUSH IN DRIVE



SERIES 1115 - SINGLE-POLE PUSHBUTTON SWITCHES

TO 16 (4) A 400 V AC






PRODUCT FEATURES

- Double lifting contact system
- Contact distance > 3 mm
- Actuator can be approached from all directions
- Normally open-, Normally closed- and combined (changeover) version

ON REQUEST

- Customized versions
- G-conform according IEC 60335-1:2001 chap. 30 UL 94 V-0

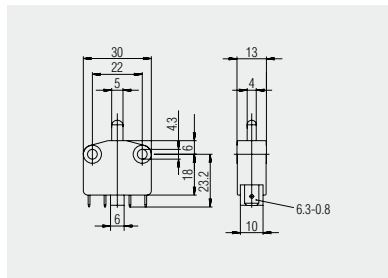
Mechanical life endurance	10E4
Contact resistance (new condition)	< 100 mOhm (1 A 12 V DC)
Insulation resistance (new condition)	> 100 MOhm (500 V DC)
Proof tracking	250 PTI
Protection type	IP 40
Ambient temperature	-40 °C ... +85 °C
Flammability	UL 94 V-0
Glow wire test temperature	850 °C
Material actuator housing terminals	PA glass fiber-reinforced PA glass ball reinforced , black, ultrasonic welded silver plated
Contact material	Ag
Contact distance	> 3 mm < 3 mm
Approval marks	 /  (product-dependend) / 
Suitable for appliances of protection class II under compliance with the installation conditions required on the equipment side	



SERIES 1115 - SINGLE-POLE PUSHBUTTON SWITCHES

TO 16 (4) A 400 V AC

	16 (4) A 400 V AC 1E4	16 (2) A 380 V AC 1E4	12 A 125 V AC 1/6 HP	6 A 250 V AC 1/6 HP	Terminal type	Terminal description	Contact distance (mm)	Operating force (N)	Operating position (OP) (mm)	Difference travel max. (mm)	Free position (FP) max. (mm)	Permissible total travel position (TP) (mm)	Stock version
Normally closed contact (SPNC)													
1115.2101	○		○	○		6.3	> 3	6.0 ± 0.5			15	10.5	○
Normally open contact (SPNO)													
1115.4101	○		○	○		6.3	> 3	6.0 ± 0.5	13.15 ± 0.35		16.25	10.5	○
Changeover switch (SPDT momentary)													
1115.0101		○				6.3	< 3	6.5 ± 1.0	13.5 ± 0.5		15	10.5	○



Quick-connect terminal 6.3 x 0.8

Basic type 1115

ROCKER SWITCHES
PUSHBUTTON SWITCHES
TOGGLE SWITCHES
SLIDE SWITCHES
ROTARY SWITCHES
FOOT SWITCHES
TACT AND KEY SWITCHES
SMAP-ACTION SWITCHES
MICRO-SIGNAL SWITCHES
SENSORS
ECO
PUSH IN DRIVE