

# SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

TO 21 (8) A 250 V AC






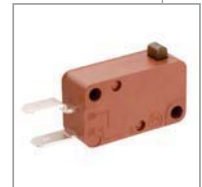
## PRODUCT FEATURES

- ◆ Friction contact system the shearing movement of which can loosen weldings
- ◆ Very high inrush currents (capacitive)
- ◆ Contact distances less and greater than 3 mm
- ◆ Switching 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 terminal outlet


Design	DIN 41635 A
Mechanical life endurance	10E6 standard version 5E6 version with lever or contact spacing > 3 mm 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)
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	250 PTI
Insulation spacing	acc. to EN 61058 for reinforced or double insulation
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
Heat and fire resistance	850 °C (category D)
Material	actuator PA additional actuator galvanized steel / spring steel / stainless steel housing Duroplast type 182 / PA glass fiber-reinforced connections 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	



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	Normally closed contact (SPNC)					Normally open contact (SPNO)					Changeover switch (SPDT momentary)				
	1005.1113	1005.0808	1005.1105	1005.1101	1006.3402	1005.2809	1005.2505	1005.0904	1005.1204	1005.1201	1005.4001	1004.3503	1005.0404	1005.1004	
21 (8) A 250 V AC 25E3															
20 (4) A 400 V AC 1E4	●					●						●			
16 (8) A 250 V AC 1E4															
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 125 - 250 V AC 1/2 HP	●						●					●			
10 A 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					●						●				
Connection type		⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	⏏	
Connection description		6.3 straight		6.3	6.3	4.8x0.8 top side	4.8x0.8 straight		6.3	6.3				6.3	
Contact distance in mm		> 3	> 3	> 3	< 3	> 3	> 3	> 3	> 3	< 3	< 3	> 1	< 3	< 3	
Contact material		Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	
Operating force in N		1.6 - 2.8	2.6 - 4.2	2.6 - 4.2	1.5 - 2.5	2.4 - 3.8	3.5 - 4.9	2.4 - 3.8	2.4 - 3.8	1.5 - 2.5	1.5 - 2.5	0.8 - 1.8	2.4 - 3.8	2.4 - 3.8	
Operating position (OP) in mm		14.6±0.4	14.6±0.4	14.6±0.4	14.8±0.4	14.5±0.3	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	14.7±0.5	
Difference travel max. in mm		0.7	1.0	1.0	0.3	1.2	1.2	1.2	1.2	0.3	0.3	0.4	0.3	0.3	
Free position (FP) max. in mm		13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	
Permissible total travel position (TP) in mm		13.4	13.4	13.4	13.4	19.3 22.0	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	
Actuator description		□	□	□	□	□	□	□	□	□	□	□	□	□	
Lever drawing															
Miscellaneous												milled bearing blade			
Stock version		●	●	●				●	●	●	●		●	●	

ROCKER SWITCHES  
PUSHBUTTON SWITCHES  
TOGGLE SWITCHES  
SLIDE SWITCHES  
ROTARY SWITCHES  
FOOT SWITCHES  
POWER TOOL SWITCHES  
TACT AND KEY SWITCHES  
SNAP-ACTION SWITCHES  
MICRO-SIGNAL SWITCHES  
SENSORS

# SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

TO 21 (8) A 250 V AC

	1006.1514	1004.3605	1005.0507	1005.1010	1005.1303	1004.0509	1005.0101	1005.0401	1005.1001	1005.3501	1005.3605	1006.0701	1006.0901	1006.1011	1006.1101	1006.1201
																
21 (8) A 250 V AC 25E3	●															
20 (4) A 400 V AC 1E4		●														
16 (8) A 250 V AC 1E4	●															
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 125 - 250 V AC 1/2 HP	●		●			●										
10 A 250 V AC 1/2 HP					●											
10 A 125 - 250 V AC 1/2 HP				●												
10 A 125 - 250 V AC 1/4 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																
Connection type																
Connection description	6.3	6.3		6.3	4.8x0.8 straight		M3		6.3						6.3	6.3
Contact distance in mm	< 3	> 1	< 3	> 3	> 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Contact material	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag
Operating force in N	1.2 - 2.1	0.8 - 1.3	2.4 - 3.8	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	1.5 - 2.5	0.8 - 1.4	0.7 - 1.25	1.5 - 2.5	1.5 - 2.5
Operating position (OP) in mm	20.8±1.2	14.7±0.5	14.7±0.5	14.4±0.3	14.4±0.3	14.7±0.5	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
Difference travel max. in mm	0.9	0.4	0.3	1.2	1.2	0.1 - 0.25	0.3	0.3	0.3	0.3	0.3	0.3	0.7	0.9	0.3	0.3
Free position (FP) max. in mm	18 23.5	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	19.5 22.1	12.6 18.2	18 23.5	14 16.6	19.5 22.1
Permissible total travel position (TP) in mm	18	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	13.4 16	19.5 22.1	12.6 18.2	18	14	19.5 22.1
Actuator description																
Lever drawing	L12											L11	L02	L12	L01	L11
Miscellaneous		milled bearing blade	T125			milled bearing blade						pushbutton long side rounded				
Stock version							●	●	●			●	●		●	●

# SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

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	Changeover switch (SPDT momentary)											
	1006.1301	1006.1401	1006.1511	1006.1801	1006.4103	1006.4203	1004.0401	1004.1001	1004.4501	1004.4601	1004.0402	1004.1002
21 (8) A 250 V AC 25E3												
20 (4) A 400 V AC 1E4												
16 (8) A 250 V AC 1E4												
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 125 - 250 V AC 1/2 HP												
10 A 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											●	●
Connection type												
Connection description	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Contact distance in mm	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Contact material	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag
Operating force in N	0.3 - 0.55	0.8 - 1.4	0.7 - 1.25	1.5 - 2.5	1.5 - 2.5	1.5 - 2.5	0.5 - 1.1	0.5 - 1.1	0.5 - 1.1	0.5 - 1.1	0.2 - 0.6	0.2 - 0.6
Operating position (OP) in mm	15.7 ± 2.7	15.4 ± 1.2	20.8 ± 1.2	22 ± 1	20.8 ± 0.5	20.8 ± 0.5	14.7 ± 0.5	14.7 ± 0.5	20.8 ± 0.5	20.8 ± 0.5	14.7 ± 0.5	14.7 ± 0.5
Difference travel max. in mm	1.8	0.7	0.9	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Free position (FP) max. in mm	9.8	21.5	18.2	23.5	18.5	24.5	19.5	22.1	19.5	22.1	13.4	16
Permissible total travel position (TP) in mm	12.6	18.2	18	19.5	19.5	22.1	13.4	16	19.5	22.1	13.4	16
Actuator description												
Lever drawing	L04	L02	L12	L31	L11	L11	L11	L11	L11	L11	L11	L11
Miscellaneous				overtravel 1.0 + 1.5 spring-loaded	milled bearing blade	milled bearing blade	milled bearing blade	milled bearing blade	milled bearing blade	milled bearing blade	milled bearing blade	milled bearing blade
Stock version	●	●	●	●			●	●			●	●

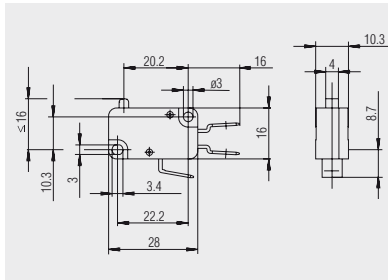
SENSORS | MICRO-SIGNAL SWITCHES | SNAP-ACTION SWITCHES | TACT AND KEY SWITCHES | POWER TOOL SWITCHES | FOOT SWITCHES | ROTARY SWITCHES | SLIDE SWITCHES | TOGGLE SWITCHES | PUSHBUTTON SWITCHES | ROCKER SWITCHES

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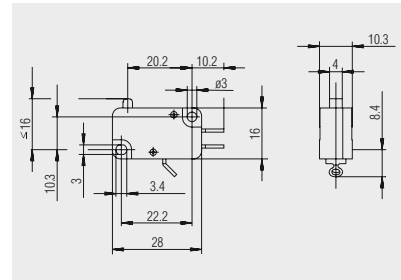
TO 21 (8) A 250 V AC



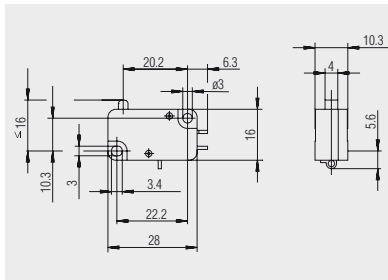
Basic type 1005



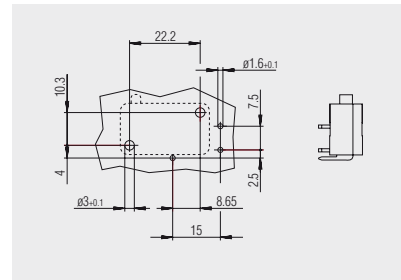
Quick-connect terminal 6.3



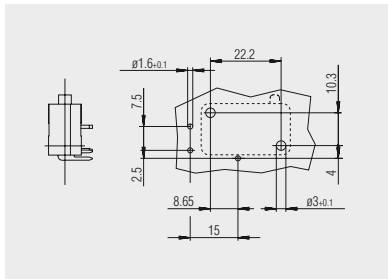
Solder terminal



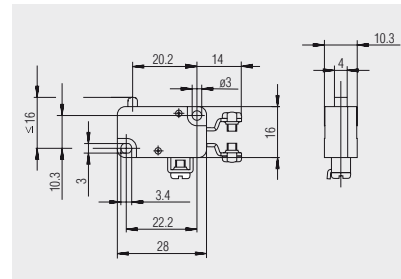
Short solder terminal



PCB terminal (base side) left angled



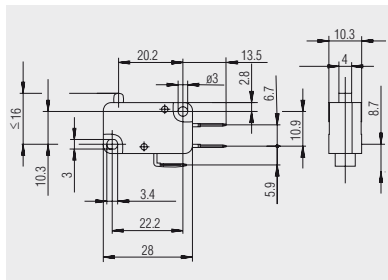
PCB terminal (cover side) right angled



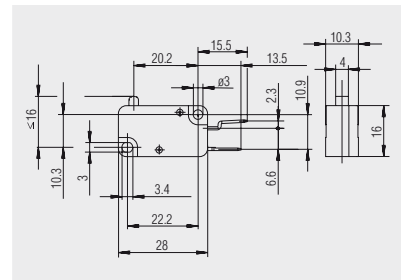
Screw connection M3



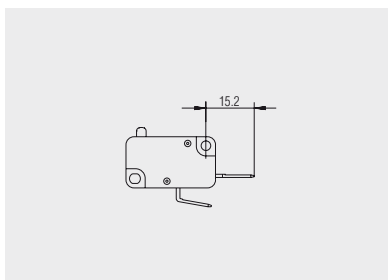
Basic type 1005



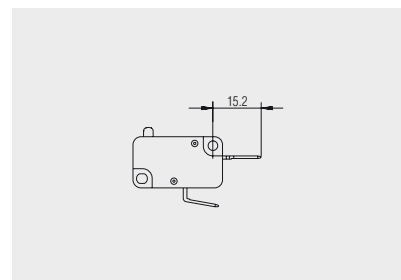
Quick-connect terminal 4.8 x 0.8 straight



Quick-connect terminal 4.8 x 0.8 top side



Quick-connect terminal 6.3 normally closed contact version



Quick-connect terminal 6.3 normally open contact version

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

POWER TOOL SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

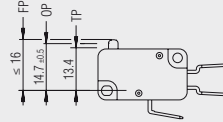
SENSORS

# SERIES 1005 - MINIATURE SNAP-ACTION SWITCHES

TO 21 (8) A 250 V AC



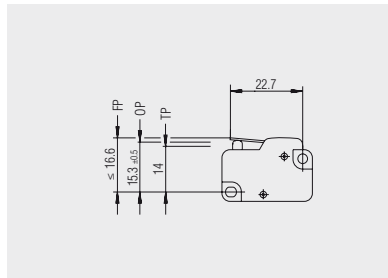
Basic types 1004 and 1005 switching positions



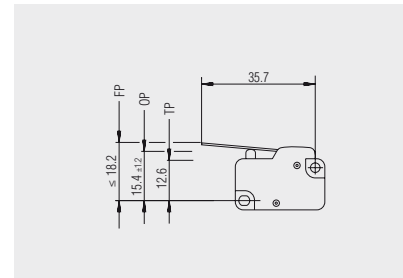
FP: free position  
OP: operating position  
TP: total travel position



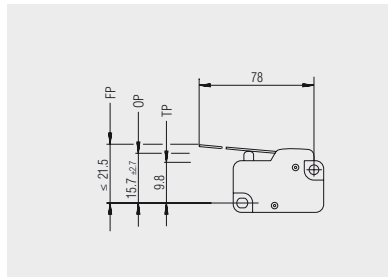
Basic type 1006 auxiliary actuator



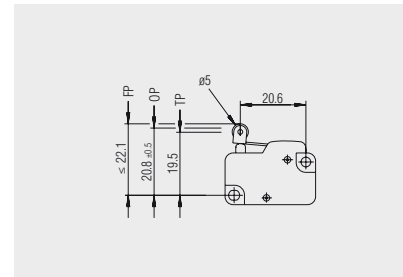
L01: straight lever



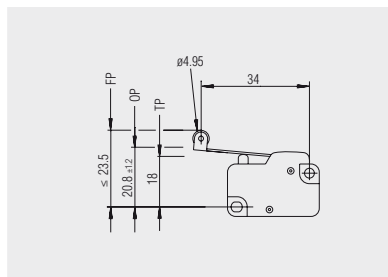
L02: straight lever



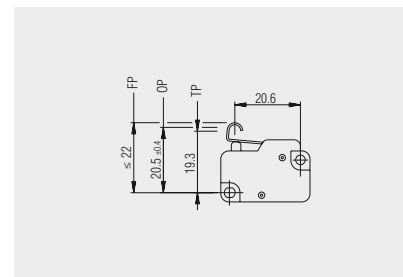
L04: straight lever



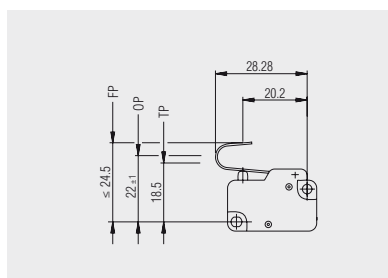
L11: roller lever



L12: roller lever



L21: simulated roller



L31: spring lever

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

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POWER TOOL SWITCHES

TACT AND KEY SWITCHES

**SNAP-ACTION SWITCHES**

MICRO-SIGNAL SWITCHES

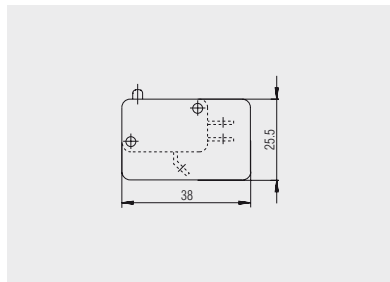
SENSORS

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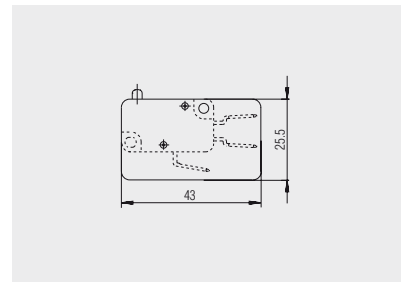
TO 21 (8) A 250 V AC



Additional parts



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

Further information under

[WWW.MARQUARDT.DE](http://WWW.MARQUARDT.DE)

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MICRO-SIGNAL SWITCHES

SENSORS