



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
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 ECO
 PUSH N' DRIVE



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TO 10(3) A 250 V AC 1E4

	Normally closed contact (SPNC)		Normally open contact (SPNO)		Changeover switch (SPDT momentary)	
						
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		sealed	sealed
Contact material	Ag	Ag	Ag	Ag	Ag	Au
Operating force (N)	≤ 2.6	≤ 3.2	≤ 2.6	≤ 2.6	≤ 2.6	≤ 1.9
Operating position (OP) (mm)	8.4 ± 0.3	8.4 ± 0.3	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	0.2	0.2	0.2
Free position (FP) max. (mm)	9.3	9.3	9.3	9.3	9.3	9.3
Permissible total travel position (TP) (mm)	7.6	7.6	7.6	7.6	7.6	7.6
Actuator	IP 67	IP 67	IP 67	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				○	○	○
		1045.0142		1045.0122		1045.0102
		1045.1943		1048.1132		1045.0151
						1045.0903
						1045.1103
						1045.1151
						1045.2101
						1045.2251
						1045.2702
						1045.3102

ROCKERSWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

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		Changeover switch (SPDT momentary)														
		1045.3151	1045.4102	1045.4151	1045.5102	1045.5112	1045.5502	1045.5512	1045.6102	1045.6502	1045.7102	1045.7502	1046.0104	1046.1103	1046.2904	1048.0151
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	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	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	≤ 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	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	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	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
Actuator		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				
Miscellaneous						lever on NC side mounted		lever on NC side mounted							with positive action on NC side	
Stock version	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

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PUSH IN DRIVE



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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	○	○	○			

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ECO

PUSH'DRIVE

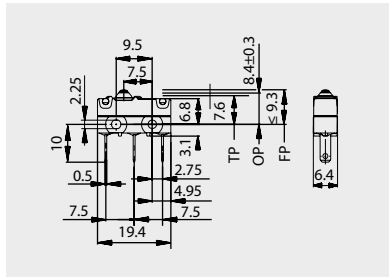


SERIES 1045 - SUBMINIATURE SNAP-ACTION SWITCH IP 67

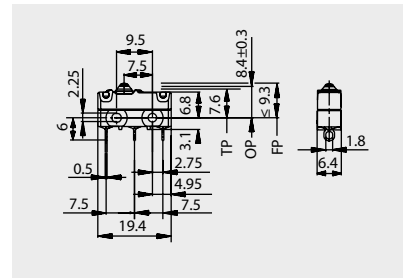
TO 10(3) A 250 V AC 1E4



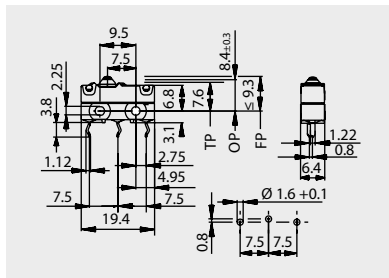
Basic type 1045



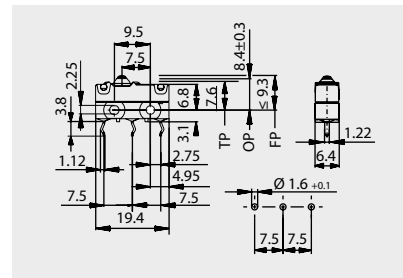
Quick-connect terminal 2.8 x 0.5 sealed



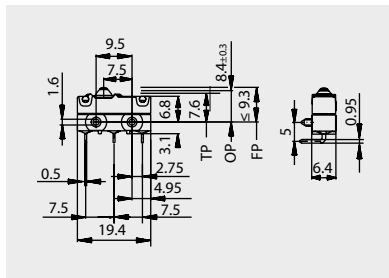
Solder terminal sealed



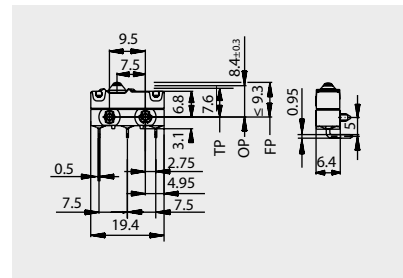
PCB terminal sealed, coded, cranked



PCB terminal sealed, cranked



PCB terminal sealed, left angled



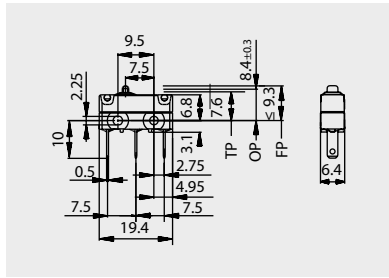
PCB terminal sealed, right angled

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TO 10(3) A 250 V AC 1E4



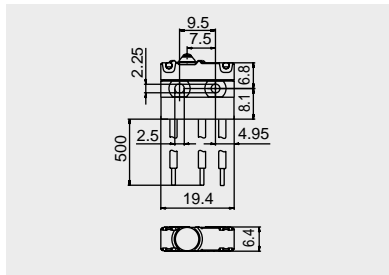
Basic type 1046

Quick-connect terminal 2.8 x 0.5 sealed

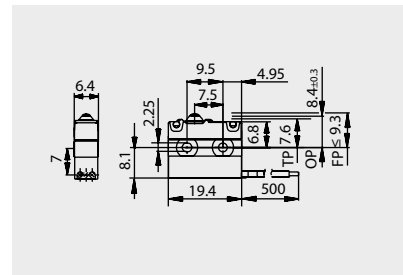


Basic type 1048

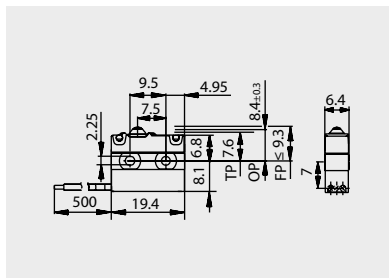
Wires potted with switch, wire ends tinned



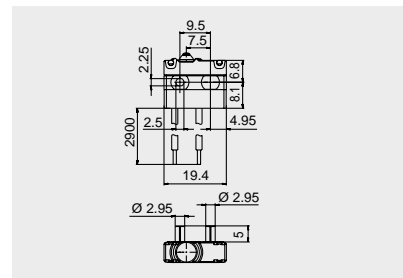
Cable, outlet down



Cable, outlet NC side



Cable, outlet C side



Cable, outlet down, normally open contact, mounting pegs

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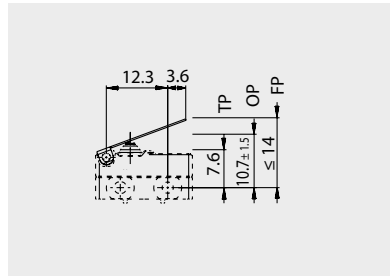
TO 10(3) A 250 V AC 1E4



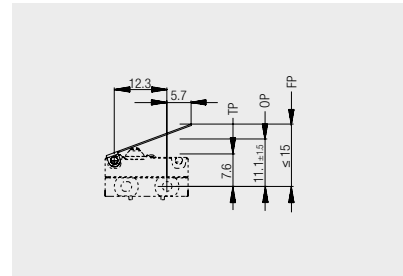
Auxiliary actuators

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.

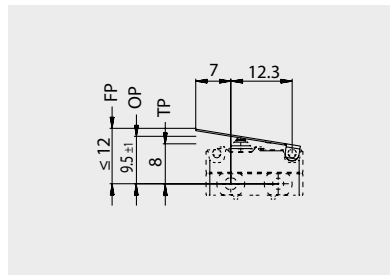
Switch versions without positive action feature a lever mounting point on the C and NC side, those with positive action only on the C side.



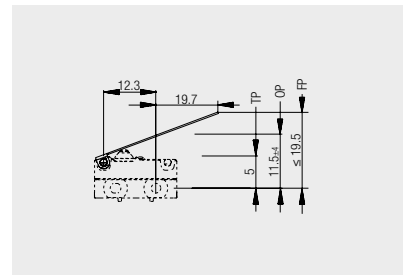
L01: straight lever
191.071.011



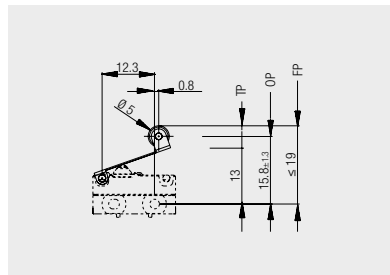
L02: straight lever
191.071.021



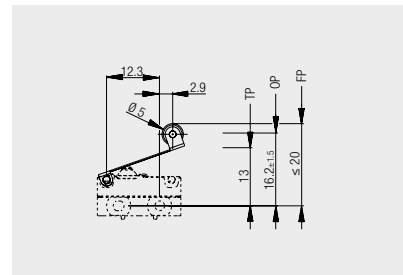
L02: straight lever, mounted on NC side
191.071.021



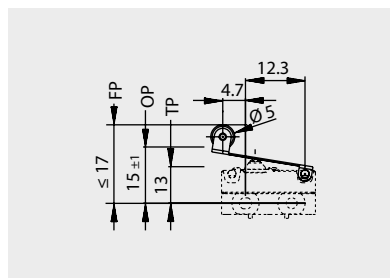
L03: straight lever
191.071.101



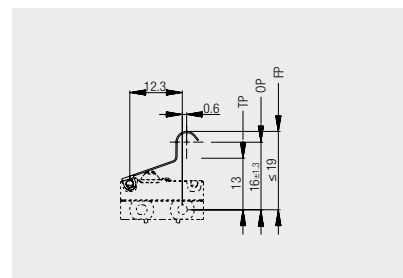
L11: roller lever
191.078.023



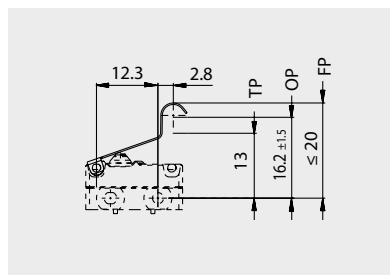
L12: roller lever
191.078.023



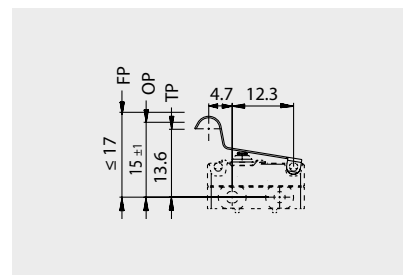
L12: roller lever, mounted on NC side
191.078.023



L21: simulated roller
191.071.041



L22: simulated roller
191.071.051



L22: simulated roller, mounted on NC side
191.071.051

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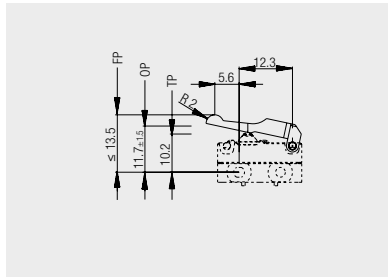


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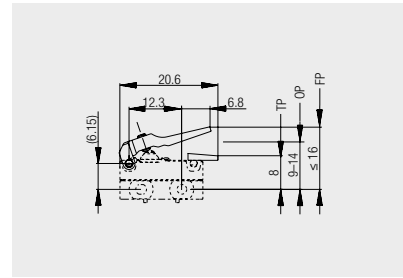
TO 10(3) A 250 V AC 1E4



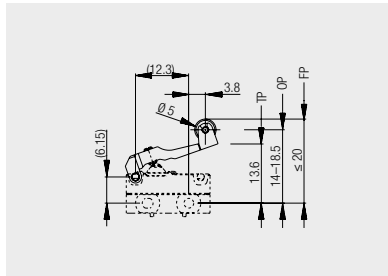
Auxiliary actuators
(continue from page 195)



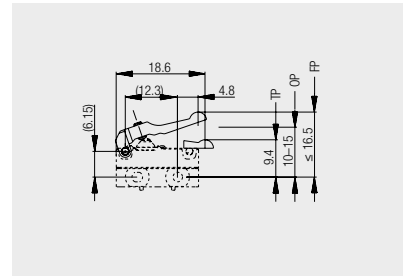
L32: simulated roller, mounted on NC side
190.372.041



L41: adjustable plastic lever
190.075.013



L43: adjustable roller lever
190.072.013



L45: adjustable simulated roller
190.074.013

Further information under

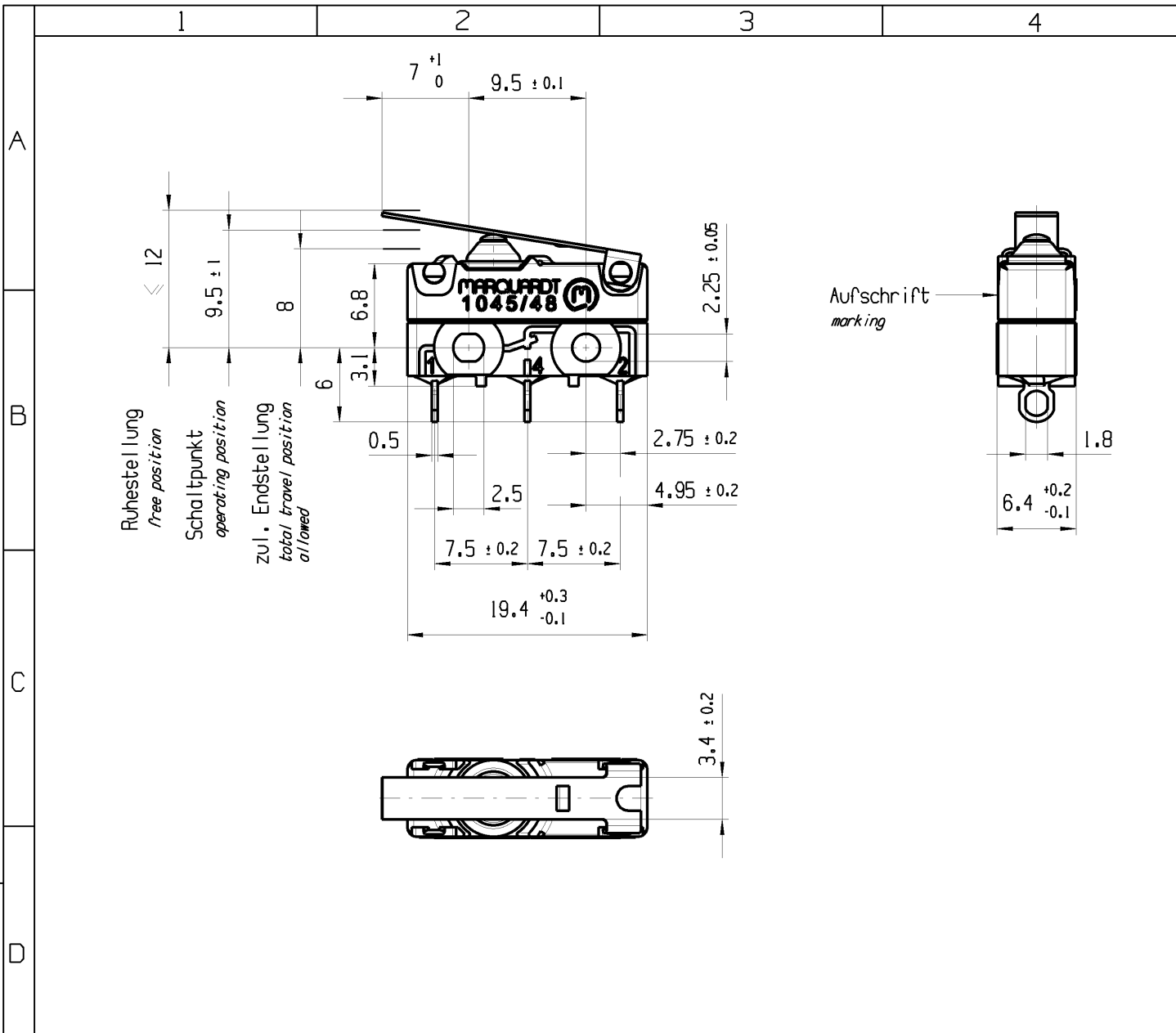
WWW.MARQUARDT-SWITCHES.COM

CONFIDENTIAL

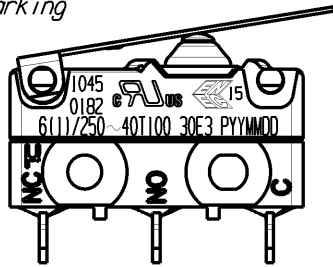
VERTRAULICH

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Aufschrift
Marking



Wechsler 1-polig
single pole changeover

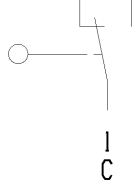
Schaltbetaetigungskraft ≤ 2 N
actuating force

Rueckschaltkraft ≥ 0.5 N
release force

Differenzweg ≤ 0.7 mm
movement differential

IP Schutzklasse nach EN 60529 IP 67
protection class acc. to EN 60529

NC NO
2 4



G: Konform nach IEC 60335-1:2001 Kap. 30
G: matching IEC 60335-1:2001 clause 30

fuer Form und Lage FOR SHAPE AND LOC.	⊙ =	0.1	Allgemeintoleranzen UNTOLERANCED DIMENSIONS				Pause COPY	Blatt SHEET 01	TYP K	Zeichn./DRAWING NO. 10455112	Index a
	PROJEKTION	Abmasse und Nennmassbereiche Angaben in mm	Loeenge LENGTH	Radien RADII	Original Din A4	Masstab SCALE 2:1 30mm					
fuer Winkel FOR ANGLE	± 0.25 ± 0.1 ± 0.25		ALL DIMENSIONS ARE IN MILLIMETRES	0-6 ± 0.1	>6-15 ± 0.15	>15-30 ± 0.2	>30-70 ± 0.3	>70-120 ± 0.4	>120 ± 0.8	SCHNAPPSCHALTER	
							CAD: NX V6.0		snap action switch		
a	83090	11.03.13	BRC			gez./DRAWN BY 30.07.12 BRC					
	79865	19.09.12	BRC			gepr./CHECKED BY					
Ausg. ISSUE	Aenderung REVISION	gez. DRAWN BY	Ausg. ISSUE	Aenderung REVISION	gez. DRAWN BY	Ersatz fuer/REPLACEMENT OF					