

# MINIATURE MICROSWITCHES - POSITIVE BREAK

## 831607

- › Coil spring snap-action mechanism with wiping contacts
- › Positive opening action according to IEC 60947-5-1 Annex K
- › Ratings from 10 mA 4 V<sub>DC</sub> to 6 A 250 V<sub>AC</sub>
- › Very long life
- › Extended range of terminals
- › cURus approved
- › Choice of actuators: stainless steel or plastic



### Main specifications

		Positive break 831607	
		Standard	Dual-current (DORE)
<b>Function</b>	<b>Connections</b>		
I (changeover)	W2 (solder)	83160702	83160796
I (changeover)	W3 (QC 6.3x0.8)	83160704	83160786
I (changeover)	W6 (QC 4.8x0.5)	83160706	●
I (changeover)	X1 (PCB, straight)	●	●
I (changeover)	X2 (PCB, rear)	●	●
I (changeover)	X3 (PCB, front)	83160708	●
R (normally closed)	W2 (solder)	83160701	83160794
R (normally closed)	W3 (QC 6.3x0.8)	83160703	83160797
R (normally closed)	W6 (QC 4.8x0.5)	83160705	●
R (normally closed)	X2 (PCB, rear)	83160732	●
R (normally closed)	X3 (PCB, front)	83160707	●
<b>Electrical characteristics</b>			
Positive opening action		⊞	⊞
Rating nominal / 250 V <sub>AC</sub> (A)		6	6*
Thermal current (I <sub>th</sub> ) (A)		10	10
<b>Mechanical characteristics</b>			
Maximum operating force (N)		4	4
Min. Release force (N)		1.5	1.5
Minimum positive opening force (N)		18	18
Max. Allowable overtravel force (N)		200	200
Rest position max. (mm)		15.7	15.7
Operating position (mm)		14.8±0.3	14.8±0.3
Positive opening position (mm)		13.5	13.5
Maximum differential travel (mm)		0.3	0.3
Min. overtravel (mm)		1.3	1.3
Ambient operating temperature (°C)		-40 → +85	-40 → +85
Mechanical life (operations)		10 <sup>7</sup>	10 <sup>7</sup>
Contact gap (mm)		1.2	1.2
Weight (g)		7	7

### Additional specifications

- Case, Button: PBT GF (UL 94-V0 / GWFI 960 °C)
- Cover: PC (UL 94-V0 / GWFI 850 °C), transparent
- Contacts: silver alloy, gold-plated silver alloy (dual-current)
- Terminals: brass (except W2/X: copper nickel), silver plated common
- Levers: stainless steel or polyamide, polyamide roller

- Degree of protection: IP40 (mechanism)
- Recommended actuating speed: 0.1 mm/s to 0.5 m/s
- Rated insulation voltage U<sub>i</sub>: 250 V
- Impulse withstand voltage U<sub>imp</sub>: 4 kV
- Certification marks:

### Product adaptations



- › **Special levers : special shapes and lengths**
- › **Special connections : angled, screw with clamp (W5), full wiring with custom connector....**
- › **Adjustable fixing by metal threaded barrel (SP9627)**
- › **Variant for irradiated environment**

Standard product

Product made to order

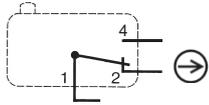


Contact us

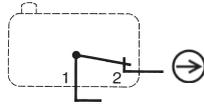
## Principles

Single break snap-action switch with positive opening action on NC contacts (1-2) according to IEC 60947-5-1 Annex K

Changeover - SPDT (form C)



Normally closed - SPST-NC (form B)



## Curves

### Electrical life

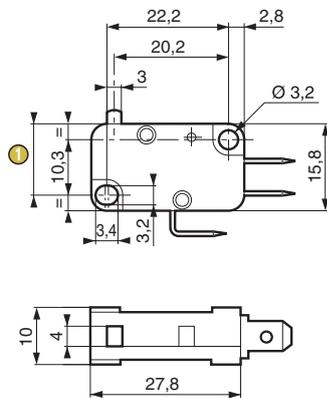
- Resistive load: 250 V $\sim$  6 A:  $10^5$  cycles
- Inductive load (IEC 60947-5-1) : AC15: 250 V $\sim$  6 A:  $0.3 \times 10^5$  cycles  
 DC13: 24 V $\text{---}$  20 W L/R = 40 ms:  $3 \times 10^5$  cycles  
 120 V $\text{---}$  20 W L/R = 40 ms:  $5 \times 10^5$  cycles

\* Dual-current models are designed to operate equally well on low current (10 mA 4 V minimum recommended) or medium-current (6 A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life

## Dimensions

### Product

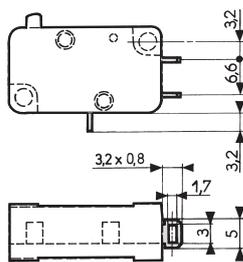
831607



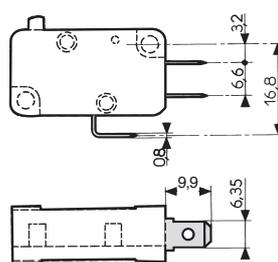
① Total travel position = 13.2 max.

## Connections

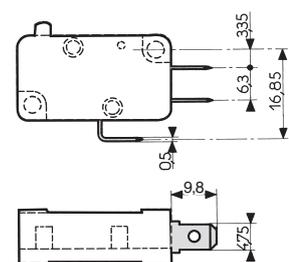
### W2 solder



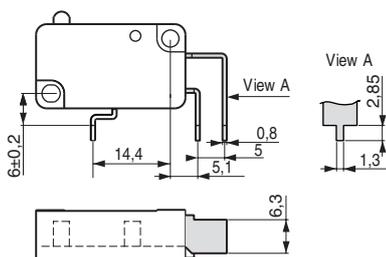
### W3 quick-connect 6.3 x 0.8



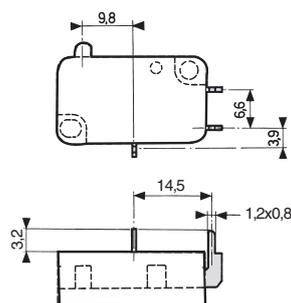
### W6 quick-connect 4.8x0.5



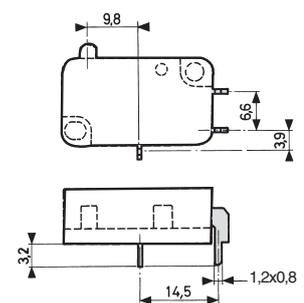
### X1 for PCB, straight output



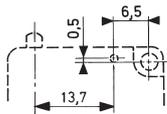
### X2 for PCB, rear output



### X3 for PCB, front output

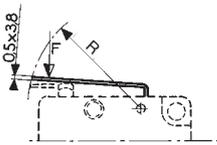


## Actuator mounting position

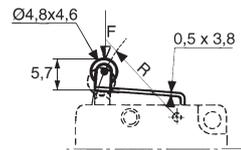


## Actuators

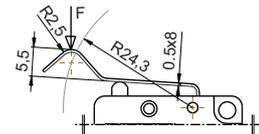
153AX flat



153EX roller



153FX dummy roller



## Actuators and mounting accessories

### Part numbers for standard actuators

79211670\*

79211672\*

79211668\*

Actuators

Flat 153AX R16.2

Roller 153EX R15.8

Dummy roller 153FX R24.3



Operating force - max.	N	4	4	2.4
Release force - min.	N	1	1	0.9
Min. positive opening force	N	18	18	11
Maximum rest position	mm	16.2	21.3	21.8
Operating position	mm	15.3 ±0.3	20.5 ±0.45	20.3 ±0.6
Positive opening position	mm	14	19.2	18
Maximum total travel position	mm	13.9	19.1	17.6

\* We recommend that levers are mounted in our factories. See preferred part numbers in table below.  
For unmounted supply, please also order associated pin **79210424**.

### Part numbers for standard actuators

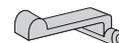
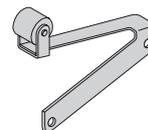
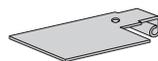
79211694\*

Actuators

Two-pole 153A2XB R 24\*\*

Flexible with roller 153B\*\*

Plastic 153V\*\*



\*\* Consult us

## 831607 microswitches with referenced actuators

Actuators	153AX R16.2	153EX R15.8	153FX R24.3
	79211670	79211672	79211668
831607 Standard	I W2	●	●
	I W3	●	●
	I X3	●	●
	R W2	●	●
	R W3	●	●
	R X3	●	●

Standard product

Product made to order

● Contact us

## Installation recommendations

See “Basic technical concepts”

## How to order

Use the 8 digit part numbers when they are defined

Other cases, precise: Type of microswitch - Function - Connection - Contact\* - Actuator\* - Adaptation\*  
\* if needed

Example: 831607 R W3 DORE 153AX R16.2

## Examples of special adaptations



Metal plunger and threaded barrel for heavy duty and precise setting (SP9627)

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