

# MINIATURE MICROSWITCHES - PREMIUM

## V3 Dual-current - 83161

- › High precision flexible leaf snap-action mechanism
- › Operation without balance-point, even at extremely slow actuating speed
- › Broad range of operating forces from 0,15 N to 3 N
- › Use from 1 mA 4 V<sub>DC</sub> to 5 A 250 V<sub>AC</sub>
- › Operating temperature from -60 °C up to +150 °C - High resistance to shock and vibration
- › Mechanical life up to 50 million cycles
- › ENEC and cURus approved
- › Wide choice of actuators on 4 possible fixing positions (pre-assembled or retrofittable)



### Main specifications

Function	Connections	Act.	Dual-current 831618		Dual-current High force 831618 SP4174		Dual-current Very low force 831619		Dual-current Ultra low force 831619 SP4136	
			Standard	UL	Standard	UL	Standard	UL	Standard	UL
I (changeover)	W2 (solder)	No	83161801	83168021	83168015	83168008	83161928	●	83161901	●
I (changeover)	W3 (QC 6.3x0.8)	No	83161806	83161873	83161832	83161894	83161906	●	83161904	83161917
I (changeover)	W6A5 (QC 4.8x0.5)	No	83161812	83161813	●	●	●	●	●	83161911
I (changeover)	W3R5 (QC 6.3x0.8, Rast 5)	No	●	●	●	●	●	●	●	●
I (changeover)	W5 (screw + clamp)	No	●	●	●	●	●	●	●	●
I (changeover)	W6D8 (QC 4.8x0.8)	No	●	●	●	●	●	●	83161915	●
I (changeover)	W7A5 (QC 2.8x0.5)	No	83161803	●	●	●	●	●	●	●
I (changeover)	2W7A8 (QC 2.8x0.8, double)	No	●	●	●	●	●	●	●	●
R (normally closed)	W2 (solder)	No	83161807	●	●	83168024	●	●	●	●
R (normally closed)	W3 (QC 6.3x0.8)	No	83161821	●	●	●	83161907	●	83161916	●
R (normally closed)	W6A5 (QC 4.8x0.5)	No	●	●	●	●	●	●	●	●
R (normally closed)	W3R5 - W5 - W6D8 W7A5 - 2W7A8	No	●	●	●	●	●	●	●	●
C (normally open)	W2 (solder)	No	83161818	83168028	●	●	●	●	●	●
C (normally open)	W3 (QC 6.3x0.8)	No	83161822	83161827	●	●	●	●	●	●
C (normally open)	W6A5 (QC 4.8x0.5)	No	83161826	83161819	●	●	●	83161908	●	●
C (normally open)	W3R5 - W5 - W6D8 W7A5 - 2W7A8	No	●	●	●	●	●	●	●	●
Configurations with actuators	Yes		See p. 10	See p. 10	See p. 10	See p. 10	See p. 10	See p. 10	See p. 10	See p. 10
<b>Electrical characteristics</b>										
Rating nominal / 250 V AC (A)			5*		5*		4*		4*	
Rating thermal / 250 V AC (A)			6		6		5		5	
Rating ENEC / 250 V AC (A)			5(1)	5(1)	5(1)	5(1)	4(1)	4(1)	4(1)	4(1)
Rating UL / 250 V AC (A)			-	5 GP	-	5 GP	-	4 GP	-	4 GP
<b>Mechanical characteristics</b>										
Maximum operating force (N)			0.8		3		0.25		0.15	
Min. Release force (N)			0.2		1		0.05		0.04	
Maximum total travel force (N)			2		4.5		0.40		0.2	
Max. permitted overtravel force (N)			20		20		20		20	
Maximum rest position (mm)			16.2		16.1		16.3		16.3	
Operating position (mm)			14,7±0.3		14,7±0.4		14,7±0.4		14,7±0.3	
Maximum differential travel (mm)			0.35		0.35		0.35		0.35	
Min. overtravel (mm)			1.2		1.1		1.1		1.2	
Ambient operating temperature (°C)			-60 → +125		-60 → +125		-40 → +125		-40 → +125	
Mechanical life for 2/3 OT (operations)			2 x 10 <sup>7</sup>		10 <sup>7</sup>		5 x 10 <sup>7</sup>		5 x 10 <sup>7</sup>	
Contact gap (mm)			0.4		0.4		0.4		0.4	
Weight (g)			5.6		5.6		5.6		5.6	

### Additional specifications

- Case: PA6 GF (UL 94-V2 / GWFI 960 °C) - Standard versions
- PBT GF (UL 94-V0 / GWFI 960 °C) - UL versions
- PET GF (UL 94-V0 / GWFI 960 °C / GWIT 775 °C) - On request
- Button: PA66
- Moving blade: silver-plated beryllium copper
- Contacts: gold alloy on silver alloy, crossbar (dual-current)
- Terminals: brass (except W2 : copper nickel)
- Levers: stainless steel or polyamide, polyamide roller
- Nuts for 161L: nickel-plated brass

- Degree of protection: IP40 (mechanism)
- Proof tracking index: PTI 250
- Protection against electric shock: button and 161-type actuators have reinforced insulation for U<sub>i</sub> 250V / U<sub>imp</sub> 2,5kV / pollution 2
- Recommended min actuating speed: 0.001 mm/s

- Conformity / Certifications: Standard versions: ENEC CE  
 UL versions: UL ENEC CE

