

# Miniature

## → V3 Dual-current

- Minimum rating 1 mA/4 VDC
- Operating temperature up to +125°C
- Conforming to EN 61058 and UL 1054
- Choice of actuators with 4 possible fixing positions



### Main specifications

		Dual-current 83 161 8	Dual-current very low force 83 161 9	Ultra light dual-current 83 161 9 SP 4136
Function	Connections			
I (Changeover)	W2	83 161 801	●	●
I (Changeover)	W3	83 161 806	●	●
I (Changeover)	W6A5	83 161 812	●	●
I (Changeover)	W3R5 - W5 - W6D8 - W7A5 - 2W7A8	●	●	●
R (Normally closed)	W2 - W3 - W3R5 - W5 - W6A5 - W6D8 - W7A5 - 2W7A8	●	●	●
C (Normally open)	W2 - W3 - W3R5 - W5 - W6A5 - W6D8 - W7A5 - 2W7A8	●	●	●
Electrical characteristics				
Rating nominal / 250 V AC (A)		0.1	0.1	0.1
Rating thermal / 250 V AC (A)		6	6	5
Mechanical characteristics				
Maximum operating force (N)		0.8	0.25	0.15
Min. Release force (N)		0.2	0.05	0.04
Maximum total travel force (N)		2	0.40	0.2
Max. permitted overtravel force (N)		20	20	20
Maximum rest position (mm)		16.2	16.3	16.3
Tripping point (mm)		14.7 <sup>±0.3</sup>	14.7 <sup>±0.4</sup>	14.7 <sup>±0.3</sup>
Maximum differential travel (mm)		0.35	0.35	0.35
Min. overtravel CRA (mm)		1.2	1.1	1.2
Ambient operating temperature (°C)		-20 → +125	-20 → + 125	-20 → +125
Mechanical life for 2/3 CRA (operations)		2 x 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
Weight (g)		5.6	5.6	5.6

### Additional specifications

#### Components

##### Material

- Housings : polyamide or polyester
- Button : polyamide
- Contacts : gold alloy

##### Levers

- Flat : stainless steel
- Roller : stainless steel, glass-filled polyamide roller
- Other polyamides

Approvals : NF

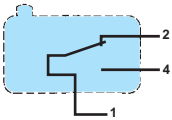
### Product adaptations



- Special levers
- Special connections
- Specific fixing
- High operating temperature
- Special operating force
- Approvals : UL - cUL

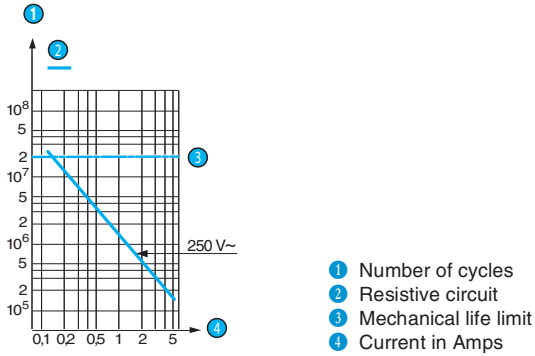
# Principles

## Single break changeover switch

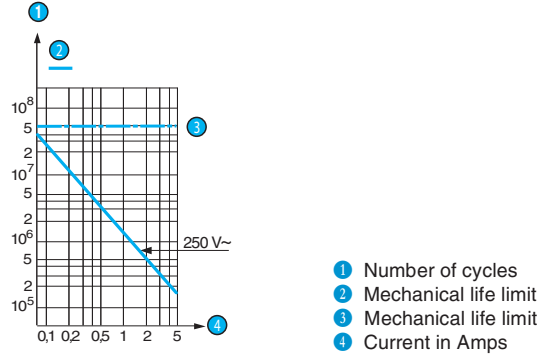


# Curves

Operating curve for type 83 161 8



Operating curve for types 83 161 9 and 83 161 9 SP 4136



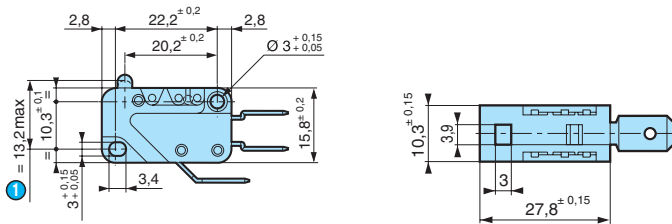
### For types 83 161 8 - 9 and 9 SP 4136 Dual-current

These models are designed to operate equally well on dual-current (1 mA 4 V minimum) or medium-current (5 A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life.

# Dimensions

## → Product

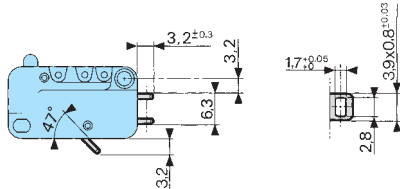
83 161



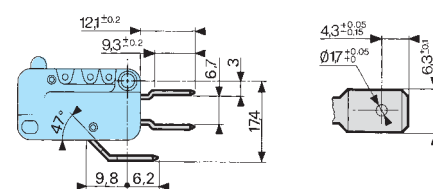
1 OL

## → Connections

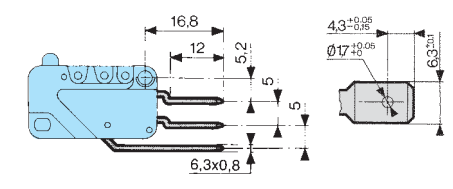
### W2 solder



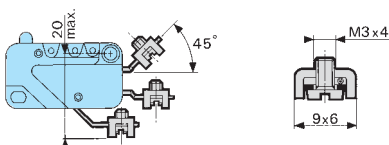
### W3 (6.3 x 0.8) for 6.35 mm clips



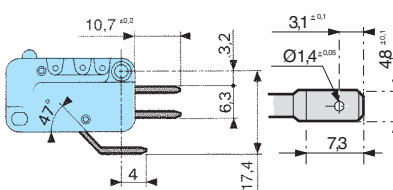
### W3R5 (6.3 x 0.8) for 6.35 mm clips



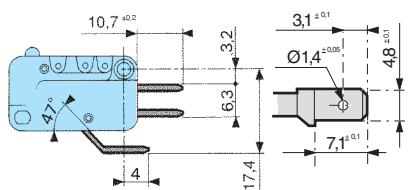
### W5 screw



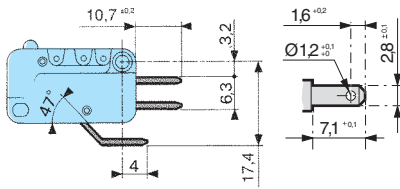
### W6A5 (4.8 x 0.5) for 4.8 mm clips



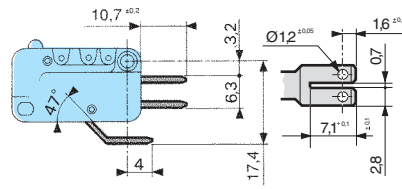
### W6D8 (4.8 x 0.8) for 4.8 mm clips



W7A5 (2.8 x 0.5) for 2.8 mm clips

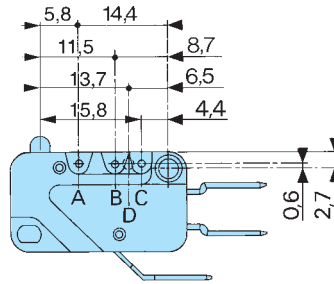
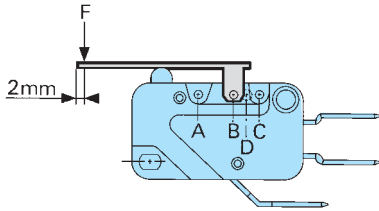


2W7A8 2 x (2.8 x 0.8) for 2.8 mm clips



→ Actuator mounting positions

Levers



To calculate force

Divide the switch force by the coefficient given in the table.

To calculate travel

Multiply the switch travel by the same coefficient.

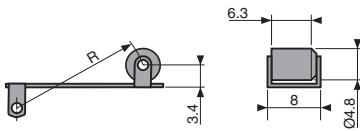
Example :

83 161 8 with lever 161 A - R 25.4 position A (coeff. 4)

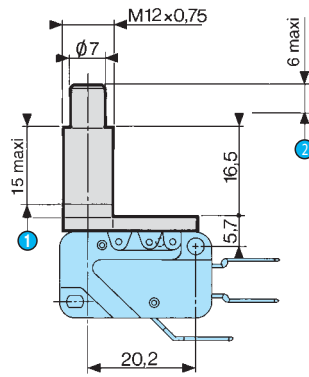
Operating force :  $0.8 : 4 = 0.2 \text{ N}$   
Pre-travel :  $1.4 \times 4 = 5.6 \text{ mm}$

→ Actuators

161 E



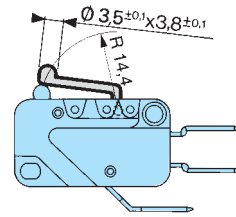
161 L



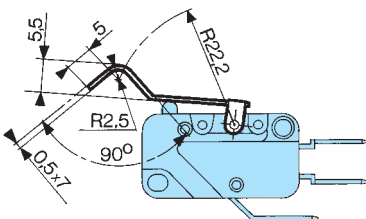
- ① Thread
- ② Total travel

Nut thickness	Max. torque
1,5 mm	5 Cm N
2 mm	7 Cm N
2,5 mm	10 Cm N

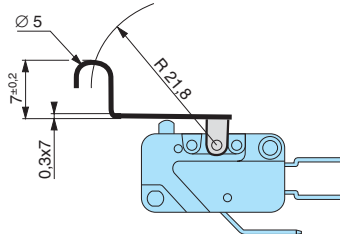
161 V



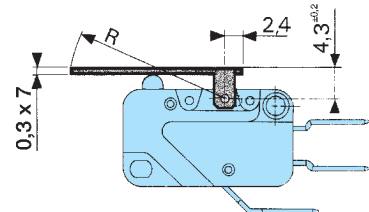
161 F



161 G

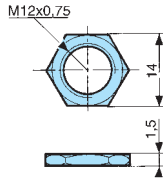


161 A

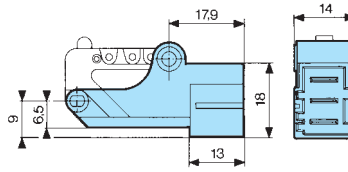


## → Mounting accessories

Nut 70 602 118



Housing 161 J for connections W3 R5



## Actuators and fixing positions

Part numbers for standard actuators	79 215 740	70 507 524	79 215 742	79 507 529	79 507 528
Actuators	Plain <b>161A</b> R14,2	Plain <b>161A</b> R25,4	Roller <b>161E</b> R13,6	Roller <b>161E</b> R24,1	Dummy roller <b>161F</b> R22,2
Fixing positions	A B	A B C	A B	A B C	A B
Coefficient	2 1	4 2 1,5	2 1	4 2 1,5	3 1,8
Tripping point (except 83 161 6)	15,2 <sup>±1</sup> 15,2 <sup>±0,45</sup>	15,2 <sup>±2,5</sup> 15,2 <sup>±1</sup> 15,2 <sup>±0,8</sup>	20,5 <sup>±1,5</sup> 20,5 <sup>±0,8</sup>	20,5 <sup>±2,9</sup> 20,5 <sup>±1,5</sup> 20,5 <sup>±1,2</sup>	20,4 <sup>±2</sup> 20,4 <sup>±0,7</sup>
Tripping point 83 161 6	14,8 <sup>±1</sup> 15 <sup>±0,45</sup>	14,4 <sup>±2,5</sup> 14,8 <sup>±1</sup> 14,9 <sup>±0,8</sup>	20,1 <sup>±1,5</sup> 20,3 <sup>±0,8</sup>	19,7 <sup>±2,9</sup> 20,1 <sup>±1,5</sup> 20,2 <sup>±1,2</sup>	20,2 <sup>±2</sup> 20,2 <sup>±2</sup>

Part numbers for standard actuators	79 218 651					
Actuators	Dummy roller <b>161G</b> R21,8	**Telescopic plunger <b>161 L</b>	Manual action	<b>161V</b>	Housing <b>161J</b>	Nut for <b>161L</b> Part no.: 70 602 118
Fixing positions	A B	D		D		
Coefficient	3 1,8	1		1		
Tripping point (except 83 161 6)	21,7 <sup>±2</sup> 21,7 <sup>±0,7</sup>	21,5 <sup>±1</sup>		18,35 <sup>±0,45</sup>		
Tripping point 83 161 6	21,5 <sup>±2</sup> 21,5 <sup>±0,7</sup>	21,5 <sup>±1</sup>				

Except where otherwise indicated, plain and roller levers are supplied unmounted.  
For factory mounting, specify fixing position A, B or C.  
\*\* For 83 161 1, 83 161 2, 83 161 3, 83 161 6 mounted in factory (supplied without nut)

## Other information

**Mounting - Operation**  
See basic technical concepts