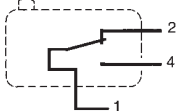


# Miniature Switches Series 83 161 DIN 41635 A

## General specifications

### Layout



### Components

#### Material

- Case : glass-filled polyamide (self-extinguishing version to UL 94 V0 and IEC 695-2-1 850° C - available on request)
- Button : polyamide
- Contacts : nickel silver or gold alloy (dual-current)

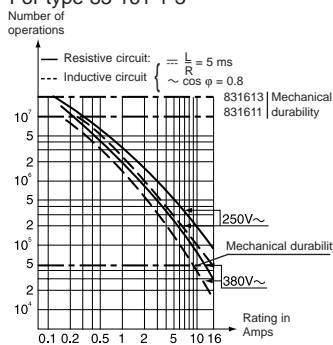
#### Actuators

- flat : stainless steel
- roller : stainless steel, glass-filled polyamide roller
- other types of polyamide

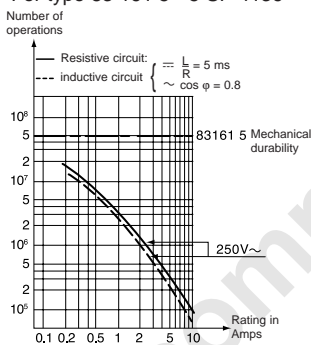
Approvals: NF - UL/cUL

### Operating curve

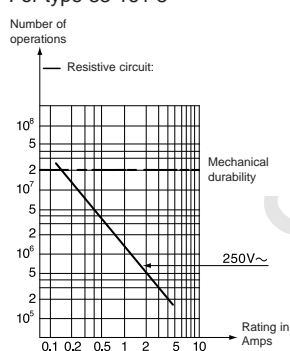
For type 83 161 1 3



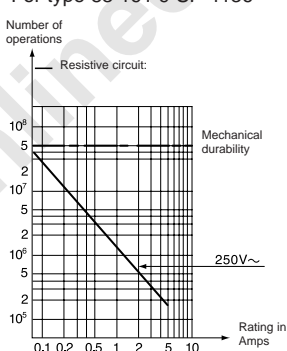
For type 83 161 5 - 5 SP 4136



For type 83 161 8



For type 83 161 9 SP 4136



For types 83 161 8 - 9 SP 4136 dual-current

Models 83 161 8 and 83 161 9 SP 4136 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.

## Types

Part numbers for standard products with connections of type	2
	3
	6

### Features

#### Electrical characteristics

Current rating at 125/250 V	Current	A
	Horsepower	HP

#### Mechanical characteristics

Operating force - max.	N (oz.)
Release force - min.	N (oz.)
Total travel force - max.	N (oz.)
Permitted overtravel force - max.	N (oz.)
Rest position - max.	mm (in.)
Tripping point	mm (in.)
Differential travel	mm (in.)
Overtravel - min. (OT)	mm (in.)
Ambient operating temperature	°C (°F)
Mechanical durability (for 2/3 OT)	Operations
Contact gap	mm (in.)
Weight	g (oz.)

### Contact type

- C (Form C) SPDT
- B (Form B) SPNC
- A (Form A) SPNO

### Connections



2 solder



3 for 1/4" Quick Connects

### Actuators and mounting positions

Part numbers for standard actuators	A	79 215 740
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Actuators-Length	mm (in.)	Flat 161A R14.2 (.56)
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Mounting positions	A	B
Coefficient	2	1
Tripping point (except 83 161 6)	15.2 <sup>+1</sup> (.6 <sup>+0.04</sup> )	15.2 <sup>+0.45</sup> (.6 <sup>+0.18</sup> )
Tripping point 83 161 6	14.8 <sup>+1</sup> (.59 <sup>+0.04</sup> )	15 <sup>+0.45</sup> (.59 <sup>+0.18</sup> )

Part numbers for standard actuators	H	79 218 651
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Actuators-Length	mm (in.)	Dummy roller 161G R21.8 (.86)
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Mounting positions	A	B
Coefficient	3	1.8
Tripping point (except 83 161 6)	21.7 <sup>+2</sup> (.85 <sup>+0.08</sup> )	21.7 <sup>+0.7</sup> (.85 <sup>+0.03</sup> )
Tripping point 83 161 6	21.5 <sup>+2</sup> (.85 <sup>+0.08</sup> )	21.5 <sup>+0.7</sup> (.85 <sup>+0.03</sup> )

## Other information

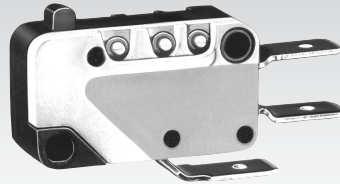
For other forces, actuators, connections and temperatures, please consult us.

Normally stocked items

Catalog products produced to order

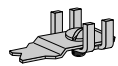
Products and specifications subject to change without notice.

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83161.1(10.1A)	83161.2(15.1A)	83161.3(10.1A)	83161.5(4A) 83161.9(0.1A)	83161.5SP4136 83161.9SP4136	83161.6	83161.8(0.1A)
831611C2.0 831611C3.0 831611C6.0	831612C2.0 831612C3.0 831612C6.0	831613C2.0 831613C3.0 831613C6.0	831615C2.0 831615C3.0 831615C6.0	• • •	831616C2.0 831616C3.0 831616C6.0	831618C2.0 831618C3.0 831618C6.0
High Force	High Current	Standard	Low Force	Ultra Light Force	Wide Gap	Dual Current
10.1 1/2	15.1 1/2	10.1 1/2	4 1/10	4 1/10	6.1 1/3	0.1 N/A
3 (10.5) 1 (3.5) 4.5 (15.8) 20 (70.5) 16.1 (0.63) 14.7 <sup>±0.4</sup> (.58 <sup>±0.16</sup> ) 0.35 (0.014) 1.1 (0.05) -20 +125 (-4 +257) 10 <sup>7</sup> 0.4 (0.016) 5.6 (.2)	0.8 (2.8) 0.2 (0.7) 2 (7.0) 20 (70.5) 16.2 (0.64) 14.7 <sup>±0.3</sup> (.58 <sup>±0.16</sup> ) 0.35 (0.014) 1.2 (0.05) -20 +125 (-4 +257) 2 x 10 <sup>7</sup> 0.4 (0.016) 5.6 (.2)	0.8 (2.8) 0.2 (0.7) 2 (7.0) 20 (70.5) 16.2 (0.64) 14.7 <sup>±0.3</sup> (.58 <sup>±0.16</sup> ) 0.35 (0.014) 1.2 (0.05) -20 +125 (-4 +257) 2 x 10 <sup>7</sup> 0.4 (0.016) 5.6 (.2)	0.25 (0.9) 0.05 (0.18) 0.35 (1.2) 20 (70.5) 16.3 (0.64) 14.7 <sup>±0.4</sup> (.58 <sup>±0.16</sup> ) 0.35 (0.014) 1.1 (0.05) -20 +125 (-4 +257) 5 x 10 <sup>7</sup> 0.4 (0.016) 5.6 (.2)	0.15 (0.54) 0.04 (0.14) 0.2 (0.72) 20 (70.5) 16.3 (0.64) 14.7 <sup>±0.3</sup> (.58 <sup>±0.16</sup> ) 0.35 (0.014) 1.2 (0.05) -20 +125 (-4 +257) 5 x 10 <sup>7</sup> 0.4 (0.016) 5.6 (.2)	5 (18) 0.5 (1.8) 6 (21.6) 20 (70.5) 16.1 (0.63) 14.5 <sup>±0.4</sup> (.58 <sup>±0.16</sup> ) 0.8 (0.03) 0.9 (0.035) -20 +125 (-4 +257) 5 x 10 <sup>4</sup> 3.2 (0.126) 5.6 (.2)	0.8 (2.8) 0.2 (0.7) 0.2 (.07) 20 (70.5) 16.2 (0.64) 14.7 <sup>±0.4</sup> (.58 <sup>±0.16</sup> ) 0.35 (0.014) 1.2 (0.05) -20 +125 (-4 +257) 2 x 10 <sup>7</sup> 0.4 (0.016) 5.6 (.2)

C	C	C	C	C	C	C
B	B	B	B	B	B	B
A	A	A	A	A	A	A



5 screw



6 for 3/16" Quick Connects



7 for .11 Quick Connects

B 70 507 524	E 79 215 742	G 70 507 529	F 70 507 528
Flat 161A R25.4 (1)	Roller 161E R13.6 (.54)	Roller 161E R24.1 (.95)	Dummy 161F roller R22.2 (.84)
A 4 15.2 <sup>±2.5</sup> (.6 <sup>±1</sup> ) 14.4 <sup>±2.5</sup> (.56 <sup>±1</sup> )	B 1 20.5 <sup>±1.5</sup> (.81 <sup>±0.6</sup> ) 20.1 <sup>±1.5</sup> (.79 <sup>±0.6</sup> )	A 4 20.5 <sup>±2.9</sup> (.81 <sup>±1.1</sup> ) 19.7 <sup>±2.9</sup> (.76 <sup>±1.1</sup> )	B 1.8 20.5 <sup>±0.7</sup> (.81 <sup>±0.3</sup> ) 20.2 <sup>±2</sup> (.79 <sup>±0.8</sup> )
B 2 15.2 <sup>±1</sup> (.6 <sup>±0.4</sup> ) 14.8 <sup>±1</sup> (.58 <sup>±0.4</sup> )	C 1.5 15.2 <sup>±0.8</sup> (.6 <sup>±0.3</sup> ) 14.9 <sup>±0.8</sup> (.59 <sup>±0.3</sup> )	B 2 20.5 <sup>±1.5</sup> (.81 <sup>±0.6</sup> ) 20.3 <sup>±0.8</sup> (.80 <sup>±0.3</sup> )	C 1.5 20.5 <sup>±1.2</sup> (.81 <sup>±0.5</sup> ) 20.2 <sup>±1.2</sup> (.79 <sup>±0.5</sup> )

L	V 161V	C 70 507 526	D 79 215 835
** Telescopic plunger Manual action 161L	161V	Flat 161A R50 (1.9)	Flat 161A R60 (2.39)
D Factory Mount only	D Factory Mount only	A 6 15.2 <sup>±6.3</sup>	A 7 15.2 <sup>±6.9</sup>
1 21.5 <sup>±1</sup> (.85 <sup>±0.4</sup> ) 21.5 <sup>±1</sup> (.85 <sup>±0.4</sup> )	1 18.35 <sup>±0.45</sup>	B 3 15.2 <sup>±2</sup>	B 3.5 15.2 <sup>±2.5</sup>
		C 2 15.2 <sup>±1.6</sup>	C 2.2 15.2 <sup>±2.3</sup>

For factory mounting, specify fixing position A, B or C

\*\* For 83 161 1, 83 161 3, 83 161.6, 83 161 8, mounted in factory (supplied without nut)

To order, please specify :

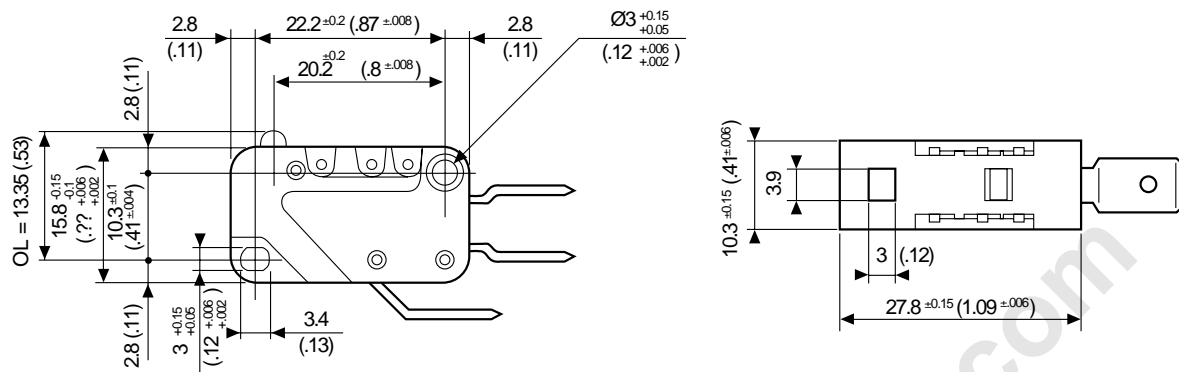
1 Switch Type	2 Contact Type	3 Connection	Example : 831612 C 3 C A	4 Actuators	5 Actuator Position
831612 831619 831613 831616 831615 831611 831618	A B C	2 3 5 6 7		Ø A B C D E F G H L V	 A B (std) D Ø = No actuator

To order actuators separately, use the 8 digit P/N Example switch is 831612, SPDT, 1/4" Q.C., C actuator mounted in A position

# Miniature Switches DIN 41635 A

## Dimensions

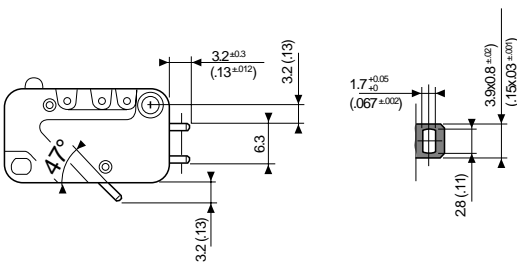
83 161



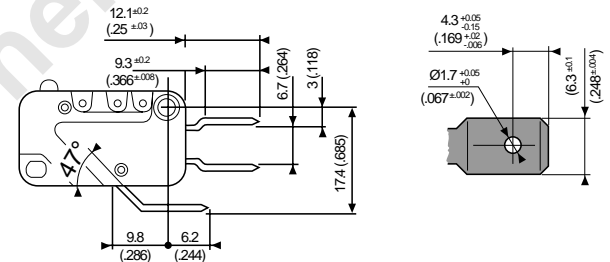
mm (in)

## Connections

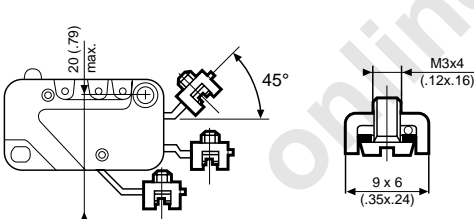
2 Solder



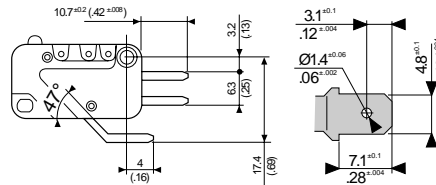
3 (6.3x0.8 (1/4x.03)) Quick Connects



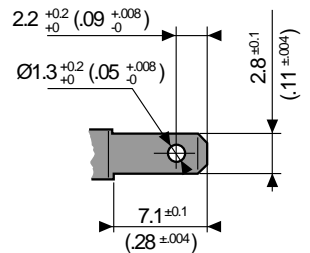
5 Screw



6 (4.8x0.5 (.3/16x.02)) Quick Connects

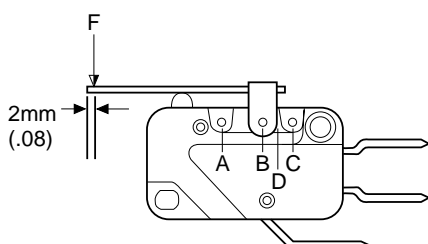


7 (2.5x0.5 (.11x.02)) Quick Connects



## Actuators

mm (in)



**Force calculation** : divide the switch forces by the coefficient in the table.

**Travel calculation** : multiply the switch travel by the same coefficient.

**Example** :

83 161 3 with B Flat 161A actuator R 25.4 (1) position A (coef. 4)

Operating force :  $0.8 \div 4 = 0.2 \text{ N}$

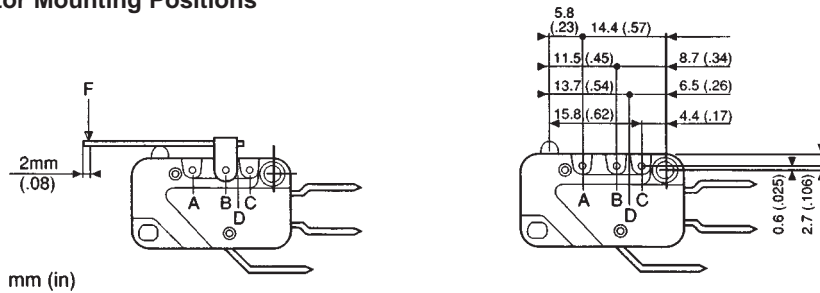
Pre-travel:  $1.4 \times 4 = 5.6 \text{ mm}$  ( $.055 \times 4 = .22 \text{ in}$ )

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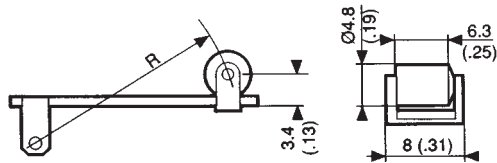
# Miniature Switches DIN 41635 A

## Actuator Mounting Positions

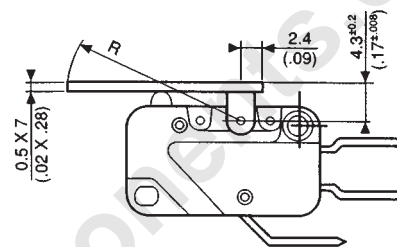


## Actuators

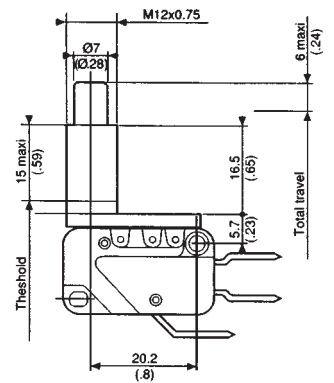
E - G



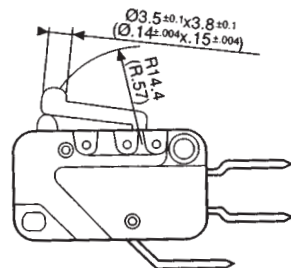
A - B - C - D



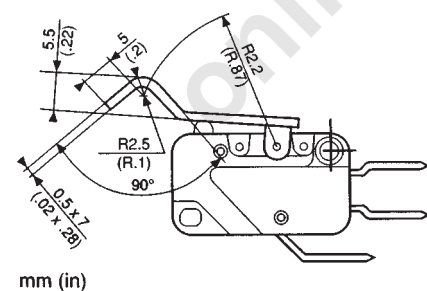
L



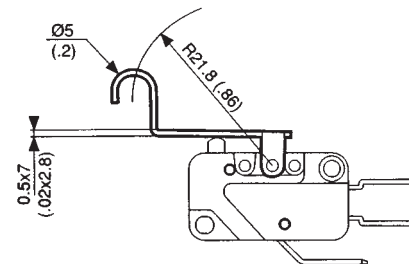
V



F



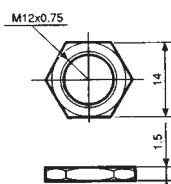
H



Nut depth	Torque max.
1.5mm (.06)	5Cm N (7 in. oz.)
2mm (.08)	7Cm N (10 in. oz.)
2.5mm (.1)	10Cm N (14 in. oz.)

## Accessories

Nuts 70 602 118 for L type actuator



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