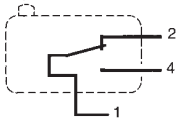
General specifications

Layout



Components

Material

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

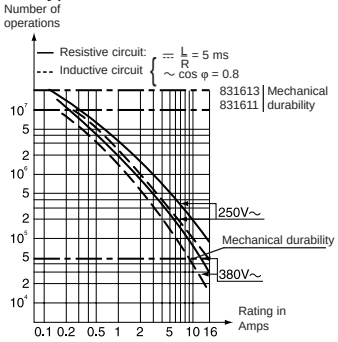
Actuators

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

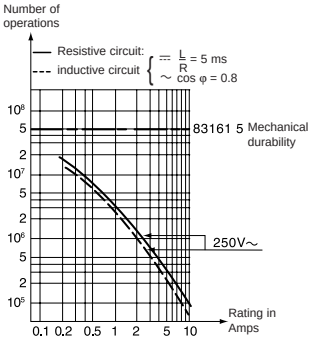
Approvals: NF - UL/cUL

Operating curve

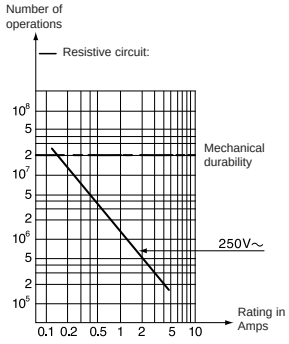
For type 83 161 1 3



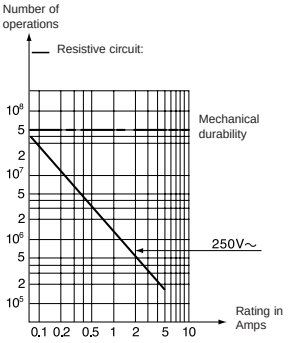
For type 83 161 5 - 5 SP 4136



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

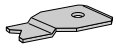
Features		
Electrical characteristics		
Current rating at 125/250 V	Current	A
	Horsepower	HP
Mechanical characteristics		
Operating force - max.		N (oz.)
Release force - min.		N (oz.)
Total travel force - max.		N (oz.)
Permitted overtravel force - max.		N (oz.)
Rest position - max.		mm (in.)
Tripping 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

Actuators-Length mm (in.) Flat **161A** R14.2 (.56)

Mounting positions	A	B
Coefficient	2	1
Tripping point (except 83 161 6)	15.2 $^{\pm 1}$(.6$^{\pm .004}$)	15.2 $^{\pm 0.45}$(.6$^{\pm .018}$)
Tripping point 83 161 6	14.8 $^{\pm 1}$(.59$^{\pm .004}$)	15 $^{\pm 0.45}$(.59$^{\pm .018}$)

Part numbers for standard actuators	H	79 218 651

Actuators-Length mm (in.) Dummy roller **161G** R21.8 (.86)

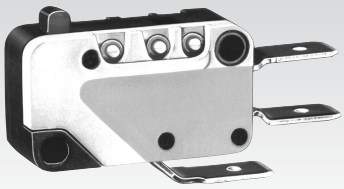
Mounting positions	A	B
Coefficient	3	1.8
Tripping point (except 83 161 6)	21.7 $^{\pm 2}$(.85$^{\pm .08}$)	21.7 $^{\pm 0.7}$(.85$^{\pm .03}$)
Tripping point 83 161 6	21.5 $^{\pm 2}$(.85$^{\pm .08}$)	21.5 $^{\pm 07}$(.85$^{\pm .03}$)

Other information

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

Normally stocked items

Catalog products produced to order



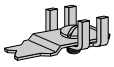
1

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	831612C2.0	831613C2.0	831615C2.0	●	831616C2.0	831618C2.0
831611C3.0	831612C3.0	831613C3.0	831615C3.0	●	831616C3.0	831618C3.0
831611C6.0	831612C6.0	831613C6.0	831615C6.0	●	831616C6.0	831618C6.0
High Force	High Current	Standard	Low Force	Ultra Light Force	Wide Gap	Dual Current
10.1	15.1	10.1	4	4	6.1	0.1
1/2	1/2	1/2	1/10	1/10	1/3	N/A
3 (10.5)	0.8 (2.8)	0.8 (2.8)	0.25 (0.9)	0.15 (0.54)	5 (18)	0.8 (2.8)
1 (3.5)	0.2 (0.7)	0.2 (0.7)	0.05 (0.18)	0.04 (0.14)	0.5 (1.8)	0.2 (0.7)
4.5 (15.8)	2 (7.0)	2 (7.0)	0.35 (1.2)	0.2 (0.72)	6 (21.6)	0.2 (.07)
20 (70.5)	20 (70.5)	20 (70.5)	20 (70.5)	20 (70.5)	20 (70.5)	20 (70.5)
16.1 (0.63)	16.2 (0.64)	16.2 (0.64)	16.3 (0.64)	16.3 (0.64)	16.1 (0.63)	16.2 (0.64)
$14.7^{\pm0.4}$ ($.58^{\pm0.16}$)	$14.7^{\pm0.3}$ ($.58^{\pm0.16}$)	$14.7^{\pm0.3}$ ($.58^{\pm0.16}$)	$14.7^{\pm0.4}$ ($.58^{\pm0.16}$)	$14.7^{\pm0.3}$ ($.58^{\pm0.16}$)	$14.5^{\pm0.4}$ ($.58^{\pm0.16}$)	$14.7^{\pm0.4}$ ($.58^{\pm0.16}$)
0.35 (0.014)	0.35 (0.014)	0.35 (0.014)	0.35 (0.014)	0.35 (0.014)	0.8 (0.03)	0.35 (0.014)
1.1 (0.05)	1.2 (0.05)	1.2 (0.05)	1.1 (0.05)	1.2 (0.05)	0.9 (0.035)	1.2 (0.05)
-20 +125 (-4 +257)	-20 +125 (-4 +257)	-20 +125 (-4 +257)	-20 +125 (-4 +257)	-20 +125 (-4 +257)	-20 +125 (-4 +257)	-20 +125 (-4 +257)
10^7	2×10^7	2×10^7	5×10^7	5×10^7	5×10^4	2×10^7
0.4 (0.016)	0.4 (0.016)	0.4 (0.016)	0.4 (0.016)	0.4 (0.016)	3.2 (0.126)	0.4 (0.016)
5.6 (.2)	5.6 (.2)	5.6 (.2)	5.6 (.2)	5.6 (.2)	5.6 (.2)	5.6 (.2)

2

C	**C**	**C**	**C**	**C**	**C**	**C**
B	**B**	**B**	**B**	**B**	**B**	**B**
A	**A**	**A**	**A**	**A**	**A**	**A**

3



5 screw

6 for 3/16˝ Quick Connects

7 for .11 Quick Connects

4

B **70 507 524**
Flat **161A** R25.4 (1)

A	B	C
4	2	1.5
$15.2^{\pm2.5}$ ($.6^{\pm.1}$)	$15.2^{\pm1}$ ($.6^{\pm.04}$)	15.2 $^{\pm0.8}$($.6^{\pm.03}$)
$14.4^{\pm2.5}$ ($.56^{\pm.1}$)	$14.8^{\pm1}$ ($.58^{\pm.04}$)	14.9 $^{\pm0.8}$($.59^{\pm.03}$)

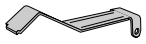
E **79 215 742**
Roller **161E** R13.6 (.54)

A	B
2	1
$20.5^{\pm1.5}$($.81^{\pm.06}$)	$20.5^{\pm0.8}$($.81^{\pm.03}$)
$20.1^{\pm1.5}$($.79^{\pm.06}$)	$20.3^{\pm0.8}$($.80^{\pm.03}$)

G **70 507 529**
Roller **161E** R24.1 (.95)

A	B	C
4	2	1.5
$20.5^{\pm2.9}$($.81^{\pm.11}$)	$20.5^{\pm1.5}$($.81^{\pm.06}$)	$20.5^{\pm1.2}$($.81^{\pm.05}$)
$19.7^{\pm2.9}$($.76^{\pm.11}$)	$20.1^{\pm1.5}$($.79^{\pm.06}$)	$20.2^{\pm1.2}$($.79^{\pm.05}$)

F **70 507 528**
Dummy **161F** roller R22.2 (.84)

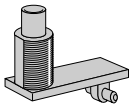


A	B	C
3	1.8	1.5
$20.4^{\pm2}$($.8^{\pm.08}$)	$20.5^{\pm0.7}$($.81^{\pm.03}$)	$20.5^{\pm0.9}$($.81^{\pm.035}$)
$20.2^{\pm2}$($.79^{\pm.08}$)	$20.2^{\pm2}$($.79^{\pm.08}$)	

4

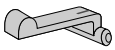
L

** Telescopic plunger
Manual action
161L



D Factory Mount only
1
21.5 $^{\pm1}$ (.85 $^{\pm.04}$)
21.5 $^{\pm1}$ (.85 $^{\pm.04}$)

V
161V



D Factory Mount only	A	B	C
1	6	3	2
18.35 $^{\pm0.45}$	$15.2^{\pm6.3}$	$15.2^{\pm2}$	$15.2^{\pm1.6}$

C **70 507 526**
Flat **161A** R50 (1.9)

A	B	C
7	3.5	2.2
$15.2^{\pm6.9}$	$15.2^{\pm2.5}$	$15.2^{\pm2.3}$

D **79 215 835**
Flat **161A** R60 (2.39)

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)

5

To order, please specify :

1 Switch Type
831612 831619
831613 831616
831615 831611
831618

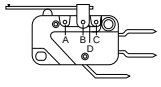
2 Contact Type
A
B
C

3 Connection
2
3
5
6
7

Example : 831612 C 3 • C A

4 Actuators
Ø
A
B
C
D
E
F
G
H
L
V

5 Actuator Position



A C
B (std) D

Ø = No actuator

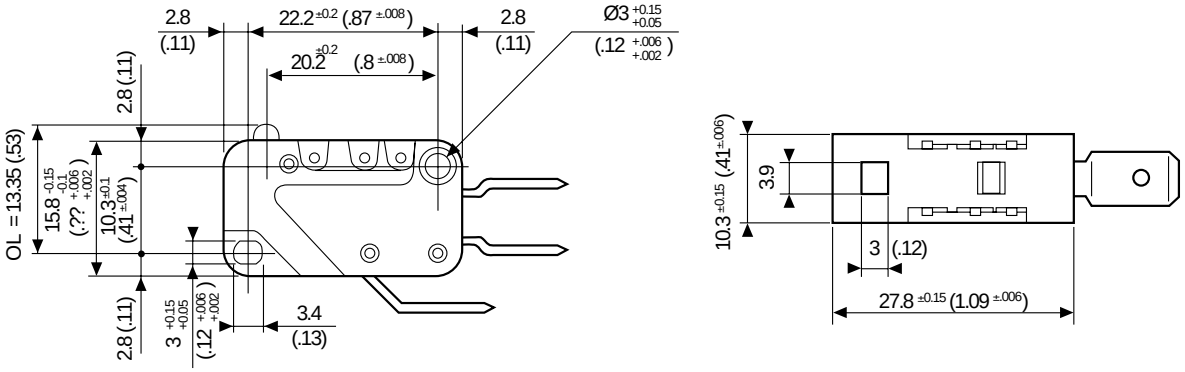
To order actuators seperately, use the 8 digit P/N

Example switch is 831612, SPDT, 1/4" Q.C., C actuator mounted in A position

3

Dimensions

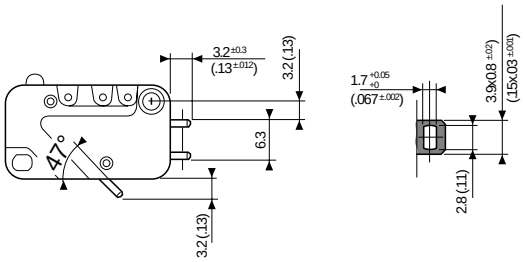
83 161



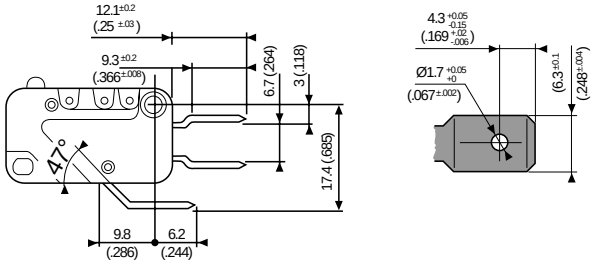
mm (in)

Connections

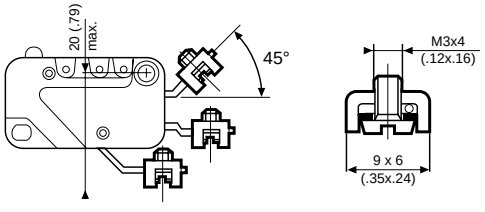
2 Solder



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

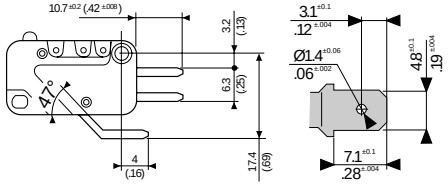


5 Screw

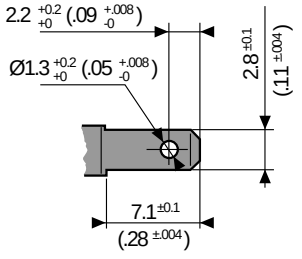


Actuators

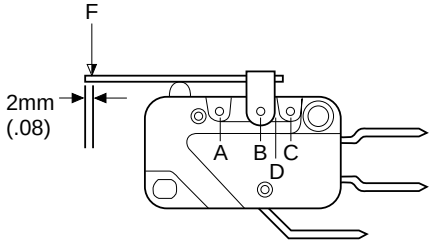
6 (4.8x0.5 (.3/16x.02)) Quick Connects



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



mm (in)

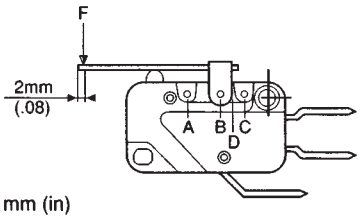


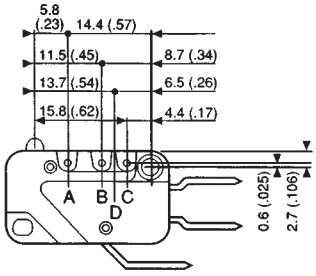
Force calculation : divide the switch forces by the coefficient in the table.

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 ÷ 4 = 0.2 N
Pre-travel: 1.4 x 4 = 5.6 mm (.055 x 4 = .22 in)

Actuator Mounting Positions

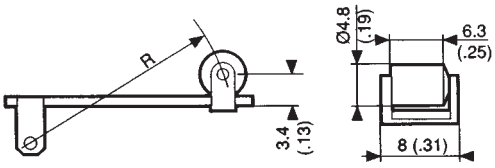




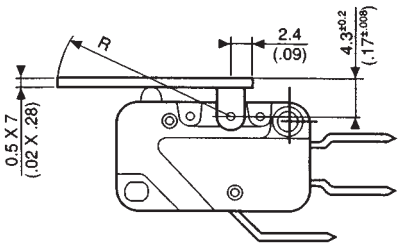
mm (in)

Actuators

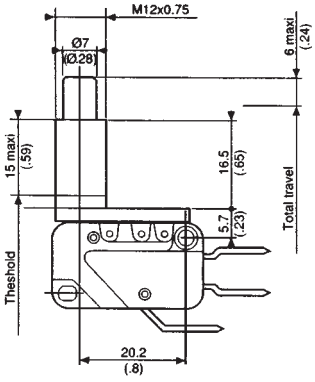
E - G



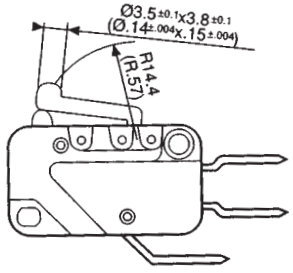
A - B - C - D



L

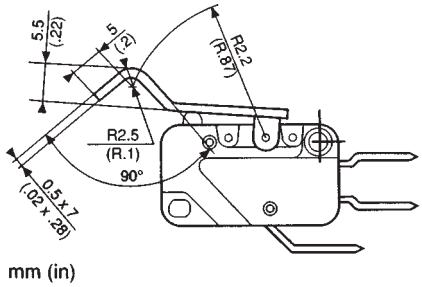


V

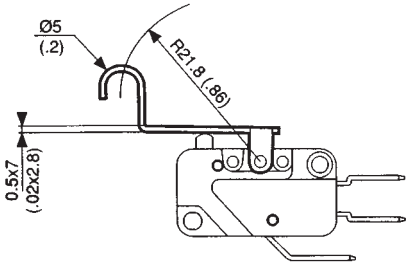


Nut depth	Torque max.
1.5mm (.06)	5Cm N (7 in oz.)
2mm (.08)	7Cm N (10 in. oz)
2.5mm (.1)	10Cm N (14 in. oz)

F



H



mm (in)

Accessories

Nuts 70 602 118 for L type actuator