

# Standard Switches (Double Break) Series 83 106 / 83 109 / 83 112 / 83 154



## General specifications

### Layout



- The NO and NC circuits must both be of the same polarity.

### Components

#### Material

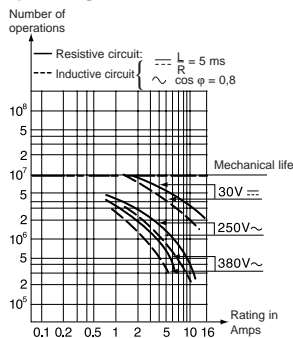
- Case : polyamide (83 106 to 83 112)
- Case : Diallyl-Phthalate (83 154)
- Contacts : nickel silver

#### Actuators

- passivated mild steel
  - roller : nylon
  - adjustable screws : self-retaining
  - plates : passivated mild steel (zinc)
- Note : Fixing holes for these switches have metal ferrules.

**Approvals:** UL - cUL

## Operating curve



83 154

## Types

83 106 0

### Features

Standard

### Electrical characteristics

Current rating at 250 V	Nominal ---	A	—
	Nominal ~		10
	Thermal	A	17.5

### Mechanical characteristics

Operating force - max.	N (oz.)	4 (14.1)
Release force - min.	N (oz.)	1 (3.5)
Permitted overtravel force - max.	N (oz.)	20 (70.5)
Maximum rest position	mm (in.)	12.75 (.5)
Tripping point	mm (in.)	11.45 <sup>+0.2 -0.25</sup> (11.45 <sup>+0.2 -0.25</sup> )
Differential travel	mm (in.)	0.5 <sup>±0.2</sup> (0.02 <sup>±0.008</sup> )
Overtravel - min.	mm (in.)	0.7 (.28)
Ambient operating temperature	°C (°C)	-20 +85 (-4 +185)
Mechanical durability	Operations	10 <sup>7</sup>
Contact gap	mm (in.)	0.4 x 2
Weight	g (oz.)	8

### Contact type

C (Form C) SPDT

C

B (Form B) SPNC

A (Form A) SPNO

### Connections

## Actuators and mounting positions

### Part numbers for standard actuators

A 70 500 888

Actuators-Length mm (in.) Flat R49 (1.92)



Operating force - max.	N (oz.)	1.2 (4.2)
Release force - min.	N (oz.)	0.25 (.9)
Pre-travel - max.	mm (in.)	6.2 (.24)
Differential travel	mm (in.)	2.1 <sup>±0.9</sup> (.083 <sup>±0.36</sup> )
Total travel max.	mm (in.)	7.5 (.3)

Except where otherwise indicated, the flat and roller actuators are mounted as shown in the dimensional drawings (mounted on the left).

### Assemblies

## Other information

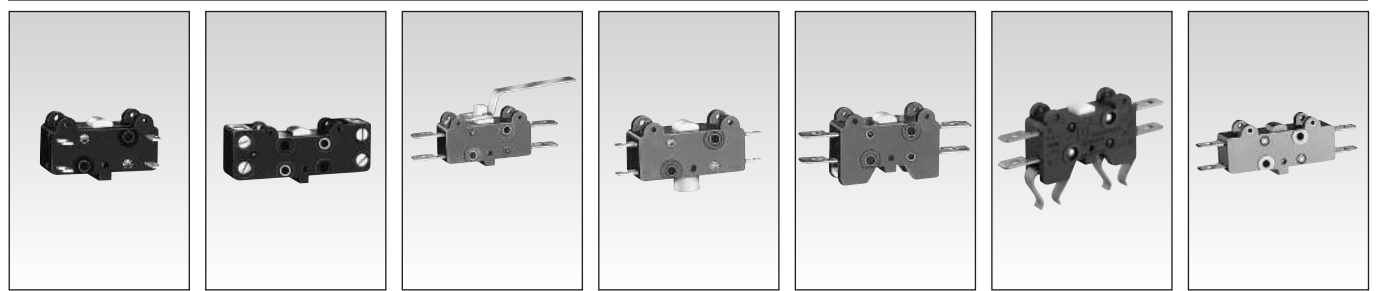
For other forces, actuators, connections and temperatures, please consult us.

Normally stocked items

Catalog products produced to order

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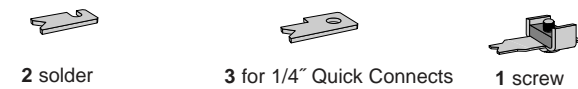
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<b>83 109 0</b>	<b>83 112 0</b>	<b>83 106 4</b>	<b>83 106 7</b>	<b>83 111 0</b>	<b>83 111 5</b>	<b>83 154 0</b>
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Face terminals	Enclosed screws	Bistable, 2 actuator positions	Bistable, 2 push button positions	Base mounting by screws	Base mounting by clips	Magnetic blow-out switch
—	—	—	—	—	—	5
10	10	10	10	10	10	—
17.5	17.5	17.5	17.5	17.5	17.5	17.5
4 (14.1)	4 (14.1)	0.45 (1.62)	2 (7.19)	4 (14.1)	4 (14.1)	4 (14.1)
1 (3.5)	1 (3.5)			1 (3.5)	1 (3.5)	1 (3.5)
20 (70.5)	20 (70.5)			20 (70.5)	20 (70.5)	20 (70.5)
12.75 (.5)	12.75 (.5)					
11.45 <sup>+0.2 -0.25</sup> (.45 <sup>+0.008</sup> )	11.45 <sup>+0.2 -0.25</sup> (.45 <sup>+0.008</sup> )			11.45 <sup>+0.2 -0.25</sup> (.45 <sup>+0.008</sup> )	11.45 <sup>+0.2 -0.25</sup> (.45 <sup>+0.008</sup> )	11.45 <sup>+0.2 -0.25</sup> (.45 <sup>+0.008</sup> )
0.5 <sup>±0.2</sup> (.02 <sup>±0.008</sup> )	0.5 <sup>±0.2</sup> (.02 <sup>±0.008</sup> )			0.5 <sup>±0.2</sup> (.02 <sup>±0.008</sup> )	0.5 <sup>±0.2</sup> (.02 <sup>±0.008</sup> )	0.65 <sup>±0.25</sup> (.02 <sup>±0.008</sup> )
0.7 (.29)	0.7 (.29)			0.7 (.29)	0.7 (.29)	0.7 (.29)
-20 +85 (-4 +185)	-20 +85 (-4 +185)	-20 +85 (-4 +185)	-20 +85 (-4 +185)	-20 +85 (-4 +185)	-20 +85 (-4 +185)	-40 +125 (-4 +257)
10 <sup>7</sup>	10 <sup>7</sup>	10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>7</sup>	10 <sup>7</sup>	10 <sup>7</sup>
0.4 x 2 (.016 x .08)	0.4 x 2 (.016 x .08)	0.4 x 2 (.016 x .08)	0.4 x 2 (.016 x .08)	0.4 x 2 (.016 x .08)	0.4 x 2 (.016 x .08)	0.5 x 2 (.016 x .08)
8 (.3)	14.5 (.3)	9 (.32)	8 (.3)	8 (.3)	8 (.3)	11 (.3)

Contact type						
<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>
		<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>
		<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>



<b>B 70 500 828</b>	<b>E 70 500 813</b>	<b>Q 70 500 840</b>	<b>T 70 500 870</b>	<b>B9</b>	<b>21 416 364</b>
R49 (1.92)	Flat R47 (1.85)	Lever R26 (1.02)	R15.5 (.61)	Operation B9	Plate Mounting Screw
1.2 (4.2)	1.2 (4.2)	2.8 (9.9)	4 (14.1)	4 (14.1)	
0.25 (.9)	0.25 (.9)	0.45 (1.6)	0.8 (2.8)	1 (3.5)	
6.2 (.24)	6.2 (.24)	3.2 (.125)	1.45 (.057)	1.5 (.059)	
2.1 <sup>±0.9</sup> (.083 <sup>±0.035</sup> )	2.1 <sup>±0.9</sup> (.083 <sup>±0.035</sup> )	1.05 <sup>±0.4</sup> (.041 <sup>±0.016</sup> )	0.5 <sup>±0.2</sup> (.02 <sup>±0.008</sup> )	0.5 <sup>±0.2</sup> (.02 <sup>±0.008</sup> )	
8.4 (.33)	7.5 (.31)	4.5 (.18)	1.9 (.075)	1.9 (.075)	

<b>Y 70 500 206</b>	<b>H 70 500 208</b>	<b>O2 70 500 218</b>	<b>K2 2-pole vertical mounting plate</b>
Y Side plate	H Horizontal single-pole mounting plate	O2 2-pole side mounting plate	

To order, specify :				
<b>1</b> Switch Type	<b>2</b> Contact Type	<b>3</b> Connection	Example : 831810 C 2 • Ø	<b>4</b> Actuators
831060	C	1		A
831090	B	2		B
831120	A	3		E
831540			To order actuators separately, use the 8 digit P/N	Q
				T
				B9
				Ø = No actuator
				<b>5</b> Actuator Position
				L - Left (Standard)
				R - Right

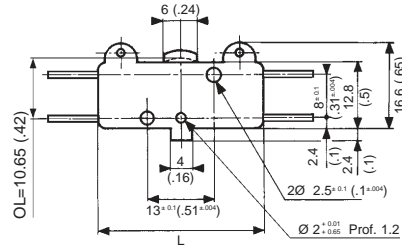
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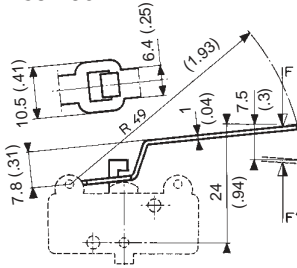
# Standard Switches

## Dimensions

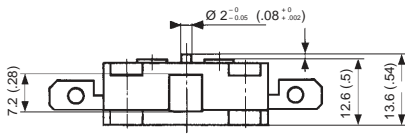
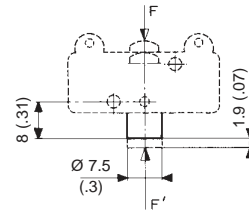
83 106 - 83 109 - 83 154



83 106 4

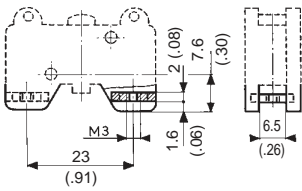


83 106 7

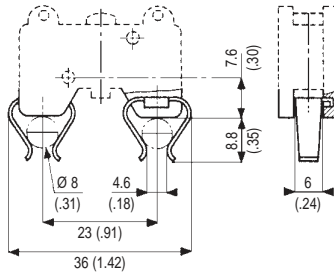


Products	L
83 106 / 109 / 111	32 (1.26)
83 154	40 (1.57)

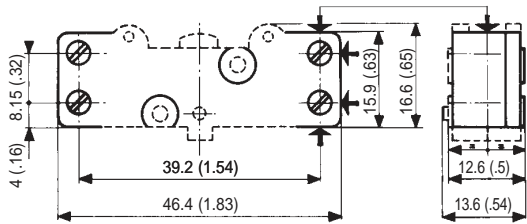
83 111 0



83 111 5



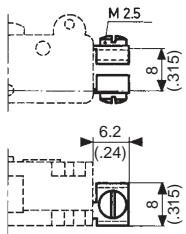
83 112



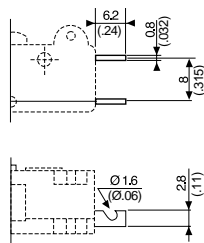
mm (in)

## Connections

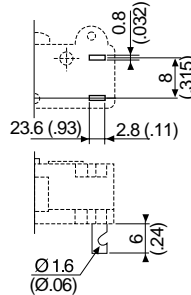
1



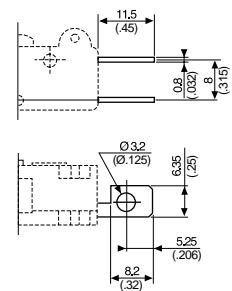
2 (83 106)



2 (83 109)



3



mm (in)

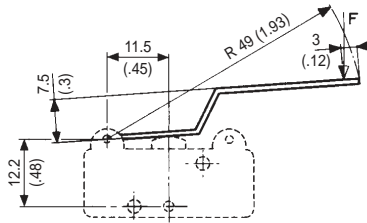
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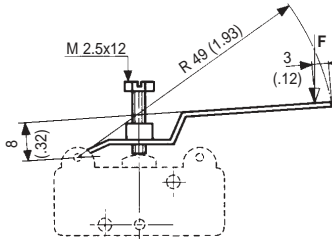
## Actuators

Cross-section of actuators 1 x 6.4 mm (.039 x .252 in.)

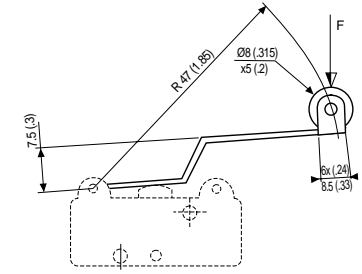
A



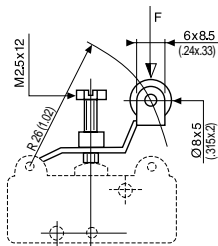
B



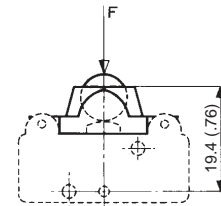
E



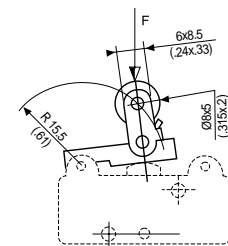
Q



B9



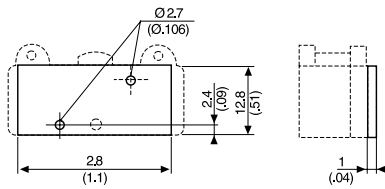
T



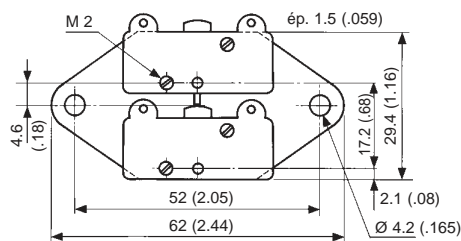
mm (in.)

## Assemblies

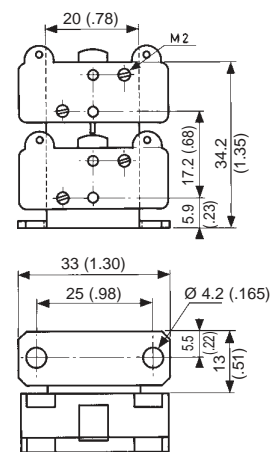
Y



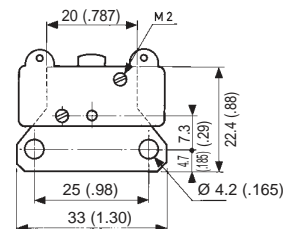
O2



K2



H



Unless indicated, the thickness of plates is 1.5 mm (.059 in.).

mm (in.)

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