

General specifications

Layout



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

Components

Material

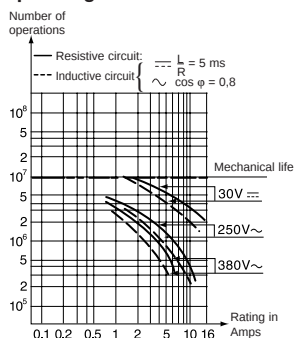
- Case : polyamide (83 106 to 83 112)
- Case : Diallyl-Phthalate (83 154)
- Contacts : nickel silver

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 $\equiv$	A	—
	Nominal $\sim$		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 ^{+0.2 -0.25} (11.45 ^{+0.2 -0.25})
Differential travel	mm (in.)	0.5 ± 0.2 (0.02 ± 0.008)
Overtravel - min.	mm (in.)	0.7 (.28)
Ambient operating temperature	°C (°C)	-20 +85 (-4 +185)
Mechanical durability	Operations	10 ⁷
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 ± 0.9 (.083 ± 0.035)
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

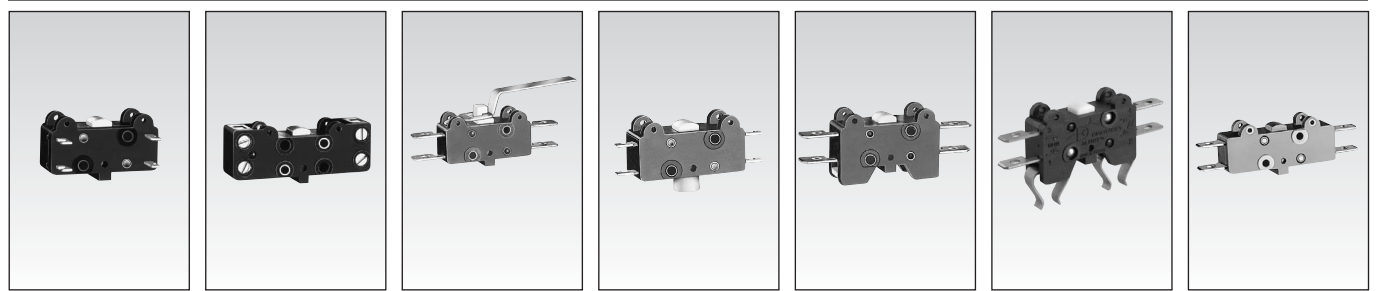
For other forces, actuators, connections and temperatures, please consult us.

Normally stocked items

Catalog products produced to order

Products and specifications subject to change without notice.

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1

83 109 0

83 112 0

83 106 4

83 106 7

83 111 0

83 111 5

83 154 0

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
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10	10	10	10	10	10	5
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 ^{+0.2 -0.25} (.45 ^{+0.008})	11.45 ^{+0.2 -0.25} (.45 ^{+0.008})			11.45 ^{+0.2 -0.25} (.45 ^{+0.008})	11.45 ^{+0.2 -0.25} (.45 ^{+0.008})	11.45 ^{+0.2 -0.25} (.45 ^{+0.008})
0.5 ^{±0.2} (.02 ^{±0.008})	0.5 ^{±0.2} (.02 ^{±0.008})			0.5 ^{±0.2} (.02 ^{±0.008})	0.5 ^{±0.2} (.02 ^{±0.008})	0.65 ^{±0.25} (.02 ^{±0.008})
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 ⁷	10 ⁷	10 ⁶	10 ⁶	10 ⁷	10 ⁷	10 ⁷
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

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

2

3



2 solder



3 for 1/4" Quick Connects



1 screw

4

B 70 500 828	E 70 500 813	Q 70 500 840	T 70 500 870	B9	21 416 364
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 ^{±0.9} (.083 ^{±0.035})	2.1 ^{±0.9} (.083 ^{±0.035})	105 ^{±0.4} (.041 ^{±0.016})	0.5 ^{±0.2} (.02 ^{±0.008})	0.5 ^{±0.2} (.02 ^{±0.008})	
8.4 (.33)	7.5 (.31)	4.5 (.18)	1.9 (.075)	1.9 (.075)	

Y 70 500 206	H 70 500 208	O2 70 500 218	
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Y Side plate



H Horizontal single-pole mounting plate



O2 2-pole side mounting plate



K2 2-pole vertical mounting plate



To order, specify :

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

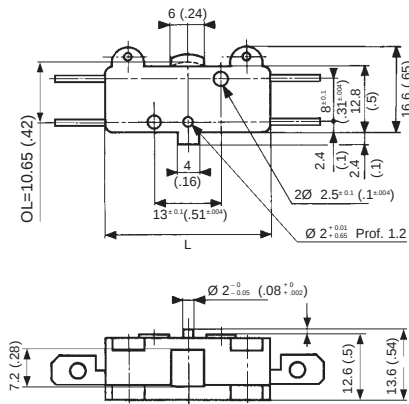
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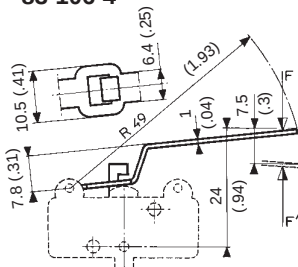
Standard Switches

Dimensions

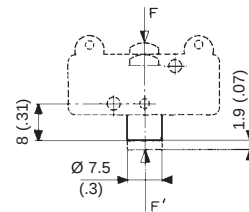
83 106 - 83 109 - 83 154



83 106 4

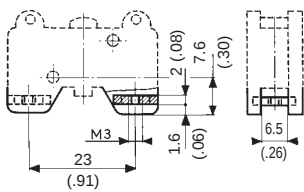


83 106 7

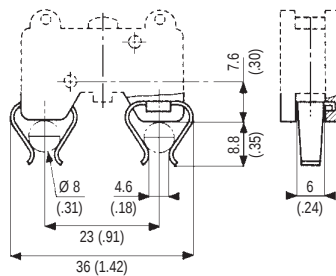


Products	L
83 106 / 109 / 111	32 (1.26)
83 154	40 (1.57)

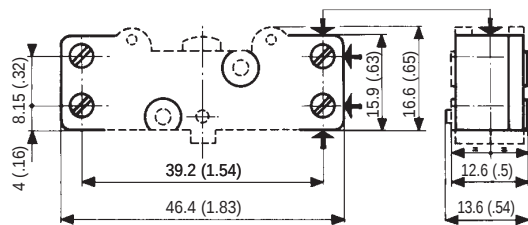
83 111 0



83 111 5



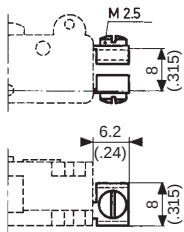
83 112



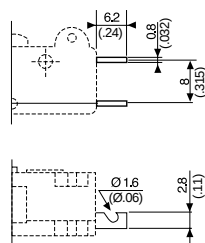
mm (in)

Connections

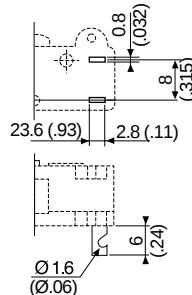
1



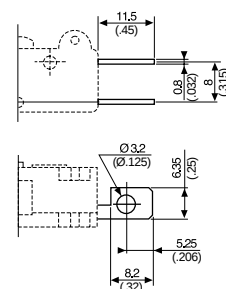
2 (83 106)



2 (83 109)



3



mm (in)

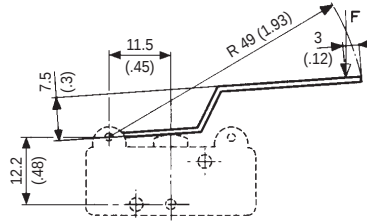
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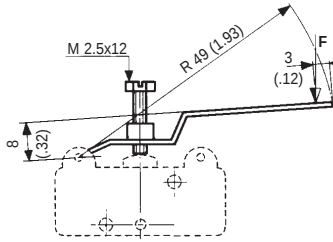
Actuators

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

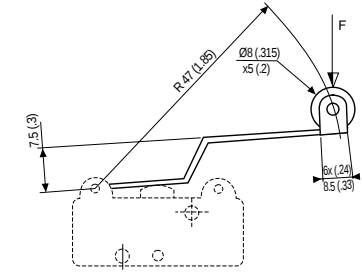
A



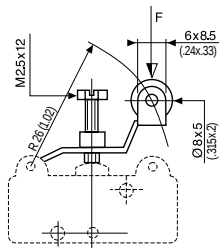
B



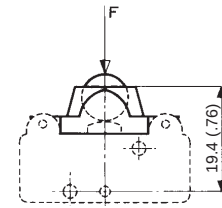
E



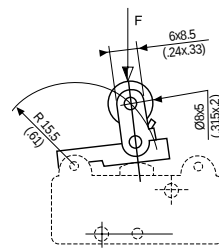
Q



B9



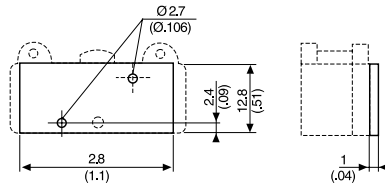
T



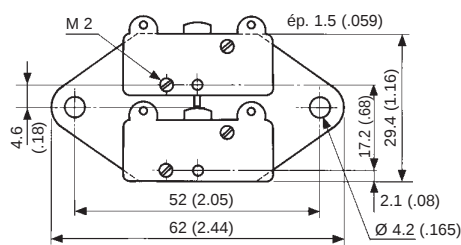
mm (in.)

Assemblies

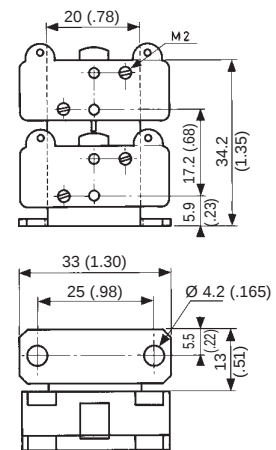
Y



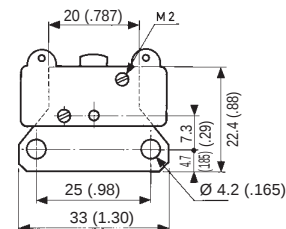
02



K2



H



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

mm (in.)

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