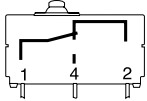


General specifications

Layout



Components

Material

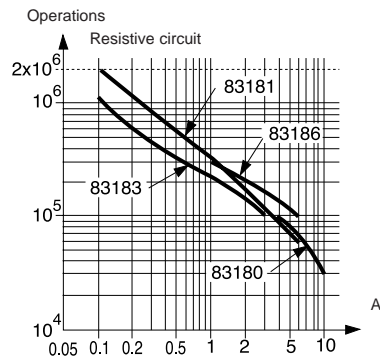
- Case : UL 94VO glass-filled polyester
- Button : Polyester
- Membrane : silicon
- Contacts : AgCdO
AgNi (dual current),
- Terminals : tinned brass
- Cable : PVC (IP 67)
- Leads : PVC

Actuators

- flat : stainless steel
- roller : stainless steel with polyamide roller

Approvals 83 180/83 186 : NF. UL - cUL on request

Operating curve 250 V~



Switch rating with DC supply

		83 180	83 181	83 183	83 186
12 V	Resistive load	10 A	6 A	3 A	6 A
	Inductive L/R 5 ms	10 A	6 A	3 A	6 A
24 V	Resistive load	10 A	6 A	3 A	6 A
	Inductive L/R 5 ms	5 A	5 A	3 A	5 A

Model 83 181 is designed to operate equally well on dual-current (1 mA 4 V minimum) or medium-current (6 A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life.

Degree of protection

- Tag version : casing = IP67
terminals = IP00
- Lead / cable version : outlet / casing = IP67

Types

Part numbers for standard products with connection of type

1
2
FD0

Features

Electrical characteristics

Current rating at 250 V	Nominal Hp	A
		1/2

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.	mm (in.)
Ambient operating temperature	for tag version °C (°F)
	for lead / cable version °C (°F)
Mechanical durability	Operations
Contact gap	mm (in.)
Weight (tag version)	g (oz.)

Contact Type

C (Form C) SPDT

B (Form B) SPNC not available in PC terminals

A (Form A) SPNO not available in PC terminals

Connections



Actuators and mounting positions

Part numbers for standard actuators

Actuators - Length mm (in.)

Mounting position

Coefficient	
Tripping point	mm (in.)
83 180	
83 181/183/186	

Part numbers for standard actuators

Actuators - Length mm (in.)

Mounting positions

Coefficient	
Tripping point	

Except where otherwise indicated, actuators are supplied unmounted.

For factory mounting, specify fixing position L or R.

- **To calculate force** : take the force quoted for the switch and divide by the coefficient given in the table.

- **To calculate travel** : take the travel quoted for the switch and multiply by the same coefficient.

Mounting accessories for PCB mounting : 5 / 6 / 7 / 8

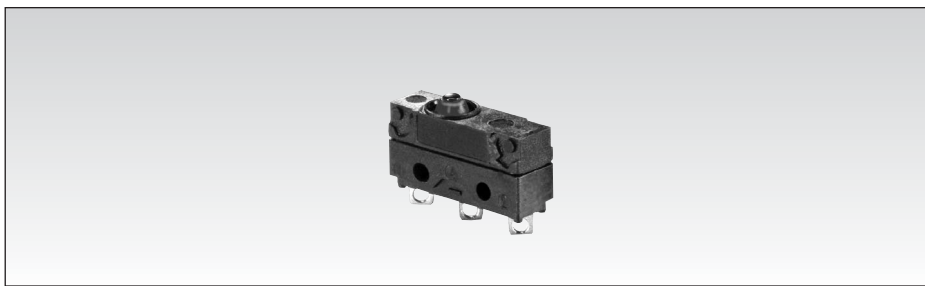
See page 3/9.

Other information

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

Normally stocked items

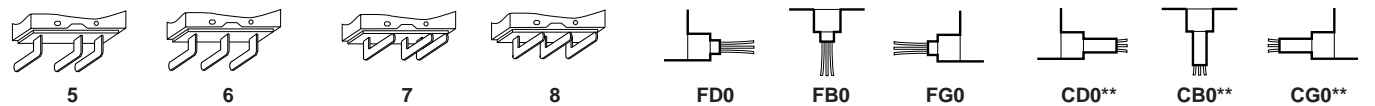
Catalog products produced to order



83180	83181	83183	83186
831800C1.0	831810C1.0	831830C1.0	831860C1.0
831800C2.0	831810C2.0	831830C2.0	831860C2.0
831800CFD0.0	831810CFD0.0	831830CFD0.0	831860CFD0.0

High current	Dual current	Medium current	Standard
10	6	3	6
12.5	7.5	4	7.5
3.4 (12)	2.5 (8.8)	2.5 (8.8)	2.5 (8.8)
1 (3.5)	0.8 (2.8)	0.8 (2.8)	0.8 (2.8)
5 (17.6)	4.2 (14.1)	4.2 (14.1)	4.2 (14.1)
10 (35.3)	10 (35.3)	10 (35.3)	10 (35.3)
9.3 (.37)	9.3 (.37)	9.3 (.37)	9.3 (.37)
8.4 ±0.3 (.33 ±0.012)	8.4 ±0.3 (.33 ±0.012)	8.4 ±0.3 (.33 ±0.012)	8.4 ±0.3 (.33 ±0.012)
0.10 (.004)	0.10 (.004)	0.10 (.004)	0.10 (.004)
0.6 (.024)	0.6 (.024)	0.6 (.024)	0.6 (.024)
-40 +125 (-40 +257)	-40 +125 (-40 +257)	-40 +125 (-40 +257)	-40 +125 (-40 +257)
-40 +105 (-40 +221)	-40 +105 (-40 +221)	-40 +105 (-40 +221)	-40 +105 (-40 +221)
10 ⁶	2 x 10 ⁶	2 x 10 ⁶	2 x 10 ⁶
0.4 (.016)	0.4 (.016)	0.4 (.016)	0.4 (.016)
2 (.07)	2 (.07)	2 (.07)	2 (.07)

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



A 79 253 327	B 79 253 326	C 79 253 328	E 79 218 454
Flat 170A R18.3 (.72)	Flat 170A R24 (.94)	Flat 170A R41 (1.61)	Roller 170E R20 (.79)
L 3 10.4 ^{+1.2} (.41 ^{+0.05})	L 4 11.1 ^{+1.2} (.44 ^{+0.05})	L 7 13.2 ^{+2.5} (.52 ⁺¹)	L 3 15.4 ^{+1.2} (.61 ^{+0.05})
R 1.5 9.2 ^{+0.6} (.36 ⁺²⁴)	R 2 9.6 ^{+0.6} (.38 ^{+0.024})	R 3.5 10.7 ^{+1.2} (.42 ^{+0.05})	R 1.5 14.5 ^{+0.6} (.57 ⁺²⁴)

F 79 253 329	D *	L *
Dummy roller 170F R19.5 (.77)	Screw 170D	Transverse roller 170EL *
L 3 13 ^{+1.2} (.51 ^{+0.05})		
R 1.5 12 ^{+0.6} (.47 ⁺²⁴)		

Ø No Actuator

* Special order, contact us for part number
 ** Cable version for types 83 181, 83 183 and 83 186

To order please specify :

1 Switch Type 831810 831830 831860 831800	2 Contact Type A B C	3 Connection 1 6 2 7 3 8 4 FDØ CDØ 5 FGØ CBØ FBØ CGØ	4 Actuators Ø F L A B C D E	5 Actuator Position L - Left (Standard) R - Right
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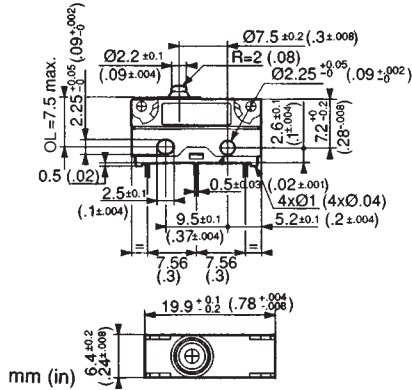
To order actuators separately, use the 8 digit P/N

Example P/N is 831810 SPDT solder terminals with no actuator.

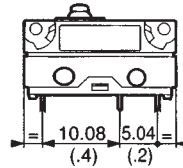
Sealed Subminiature Switches DIN 41635 B

Dimensions

Symmetric



Asymmetric



Fixed by 2 x M2 screws

Torque for

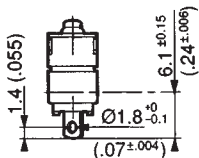
screw alone: 0.2 Nm (1.75 in. lbs.)

screw + washer: 0.3 Nm (2.65 in. lbs.)

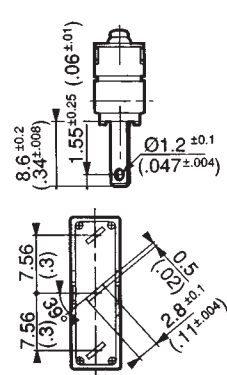
Connections

Terminals

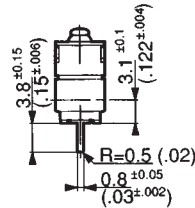
2 Solder



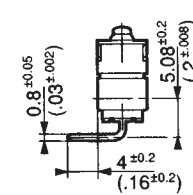
1 Faston 2.8 x 0.5
.110" Quick Connects



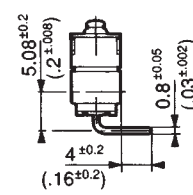
3 - 4 Straight PCB output



5 - 6 Side output, PCB rear

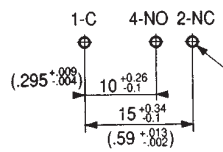


7 - 8 Side output, PCB front

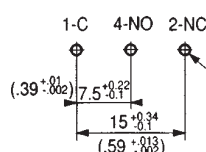


Printed circuit board mounting

Asymmetric
3, 5, 7

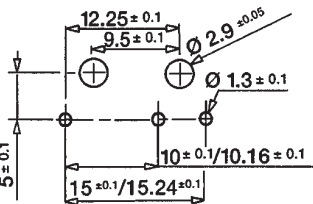


Symmetric
4, 6, 8

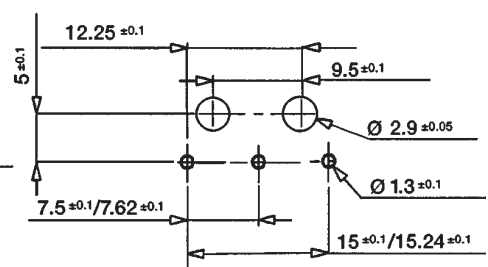


Mounting on a printed circuit board with mounting pins

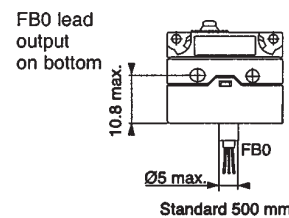
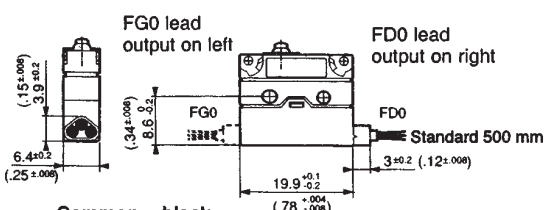
Asymmetric



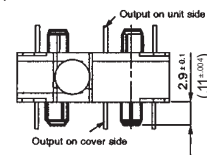
Symmetric



Lead output



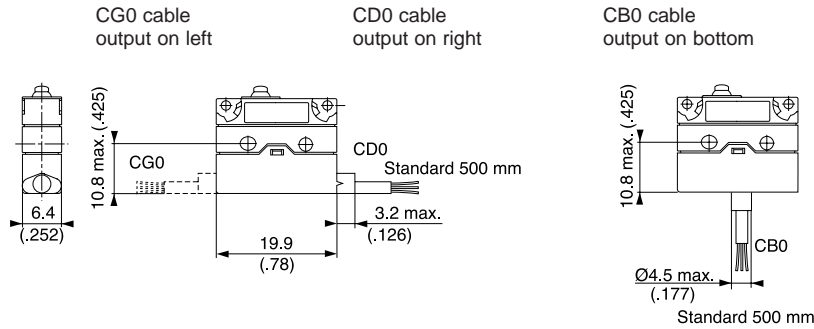
Mounting pins



Common = black
NC = brown
NO = blue
mm (in)

Conductor cross-section :
83181 / 83183 / 83186 = 3 x 0.5 mm² (.12 x .02 in²)
83180 = 3 x 0.75 mm² (.12 x .03 in²)

Cable output



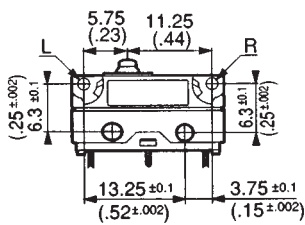
Conductor cross-section :
 83181 / 83183 / 83186 = 3 x 0.5 mm²
 (.12 x .02 in²)

Common = black
 NC = brown
 NO = blue

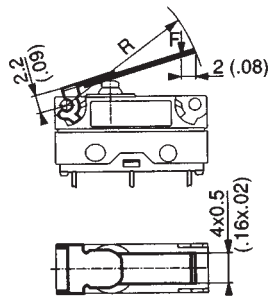
mm (in.)

Actuators

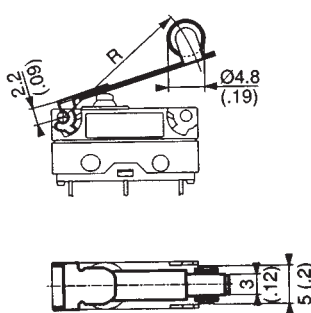
Mounting positions



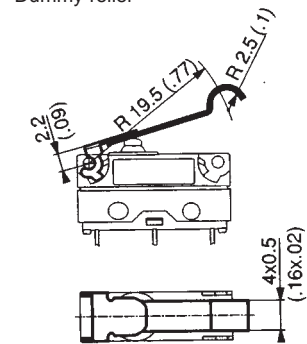
A, B, C
 Flat



E
 Roller



F
 Dummy roller



mm (in.)

Recommendations for operation from the side

