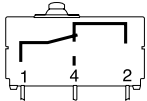


## General specifications

### Layout



### Components

#### Material

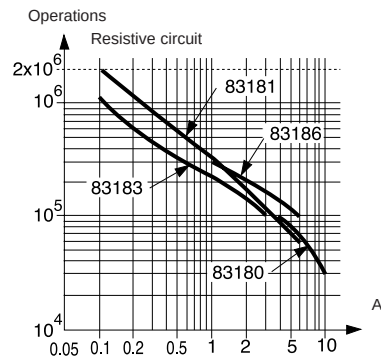
- Case : UL 94VO glass-filled polyester
- Button : Polyester
- Membrane : silicon
- Contacts : AgCdO  
AgNi (dual current),
- Terminals : tinned brass
- Cable : PVC (IP 67)
- Leads : PVC

#### 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      | 10 A   | 6 A    | 3 A    | 6 A    |
|      | 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      | 5 A    | 5 A    | 3 A    | 5 A    |
|      | 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<br>Hp | A<br>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.)                          |

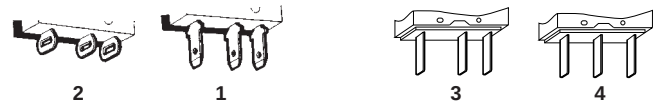
### Contact Type

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 |

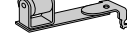
| High current | Dual current | Medium current | Standard |
|--------------|--------------|----------------|----------|
| 10           | 6            | 3              | 6        |
| 12.5         | 7.5          | 4              | 7.5      |

|                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 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 <sup>6</sup>       | 2 x 10 <sup>6</sup>   | 2 x 10 <sup>6</sup>   | 2 x 10 <sup>6</sup>   |
| 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 |

|   |   |   |   |     |     |     |       |       |       |
|---|---|---|---|-----|-----|-----|-------|-------|-------|
| 5 | 6 | 7 | 8 | FD0 | FB0 | FG0 | CD0** | CB0** | CG0** |
|---|---|---|---|-----|-----|-----|-------|-------|-------|

| 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<br>10.4 <sup>+1.2</sup> (.41 <sup>+05</sup> )                                   | L 4<br>11.1 <sup>+1.2</sup> (.44 <sup>+05</sup> )                                   | L 7<br>13.2 <sup>+2.5</sup> (.52 <sup>+1</sup> )                                    | L 3<br>15.4 <sup>+1.2</sup> (.61 <sup>+05</sup> )                                     |
| R 1.5<br>9.2 <sup>+0.6</sup> (.36 <sup>+24</sup> )                                  | R 2<br>9.6 <sup>+0.6</sup> (.38 <sup>+024</sup> )                                   | R 3.5<br>10.7 <sup>+1.2</sup> (.42 <sup>+05</sup> )                                 | R 1.5<br>14.5 <sup>+0.6</sup> (.57 <sup>+24</sup> )                                   |

| F 79 253 329                                                                        | D *                                                                                 | L *                                                                                  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Dummy roller 170F R19.5 (.77)                                                       | Screw 170D                                                                          | Transverse roller 170EL *                                                            |
|  |  |  |
| L 3<br>13 <sup>+1.2</sup> (.51 <sup>+05</sup> )                                     |                                                                                     |                                                                                      |
| R 1.5<br>12 <sup>+0.6</sup> (.47 <sup>+24</sup> )                                   |                                                                                     |                                                                                      |

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<br>831810<br>831830<br>831860<br>831800 | 2 Contact Type<br>A<br>B<br>C | 3 Connection<br>1 6<br>2 7<br>3 8<br>4 FDØ CDØ<br>5 FGØ CBØ<br>FBØ CGØ | 4 Actuators<br>Ø<br>A<br>B<br>C<br>D<br>E | 5 Actuator Position<br>L - Left (Standard)<br>R - Right |
|-------------------------------------------------------|-------------------------------|------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|

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

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

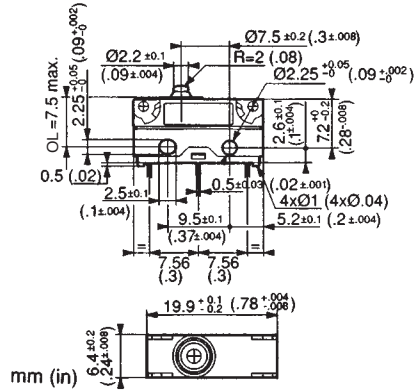
Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

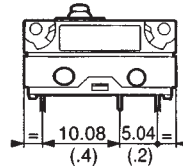
# Sealed Subminiature Switches DIN 41635 B

## Dimensions

### Symmetric



### Asymmetric



Fixed by 2 x M2 screws

Torque for

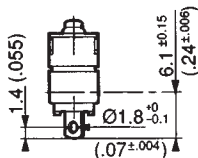
screw alone: 0.2 Nm (1.75 in. lbs.)

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

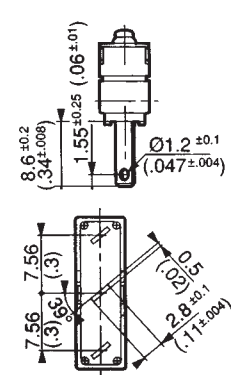
## Connections

### Terminals

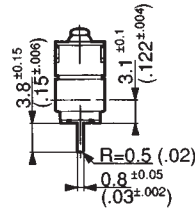
2 Solder



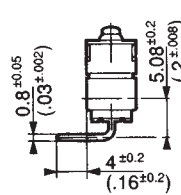
1 Faston 2.8 x 0.5 .110" Quick Connects



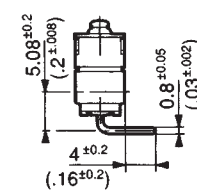
3 - 4 Straight PCB output



5 - 6 Side output, PCB rear

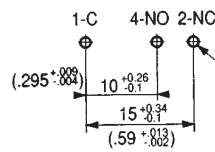


7 - 8 Side output, PCB front

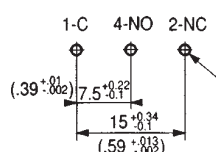


### Printed circuit board mounting

Asymmetric  
3, 5, 7

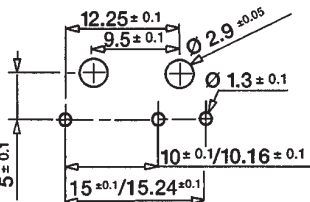


Symmetric  
4, 6, 8

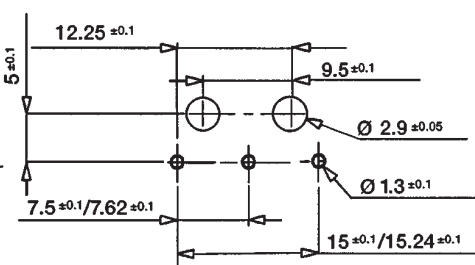


### Mounting on a printed circuit board with mounting pins

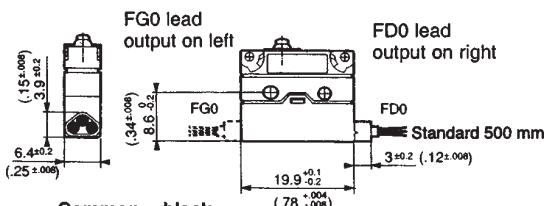
Asymmetric



Symmetric



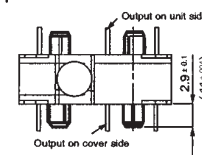
### Lead output



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

Conductor cross-section :  
83181 / 83183 / 83186 = 3 x 0.5 mm<sup>2</sup> (.12 x .02 in<sup>2</sup>)  
83180 = 3 x 0.75 mm<sup>2</sup> (.12 x .03 in<sup>2</sup>)

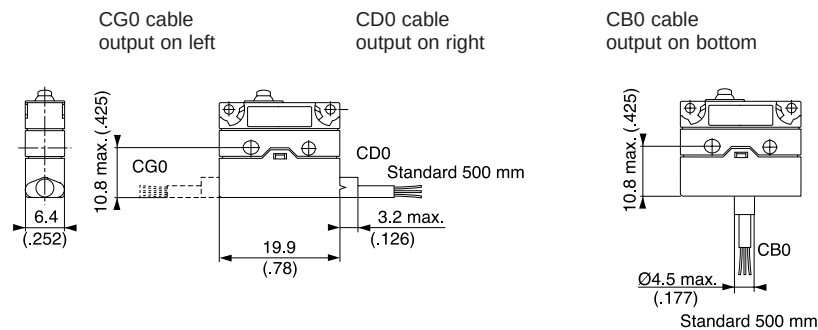
### Mounting pins



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Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / [www.crouzet-usa.com](http://www.crouzet-usa.com)

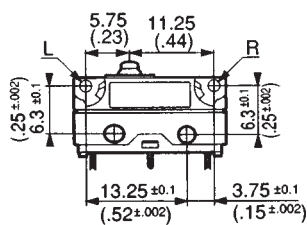
## Cable output



mm (in.)

## Actuators

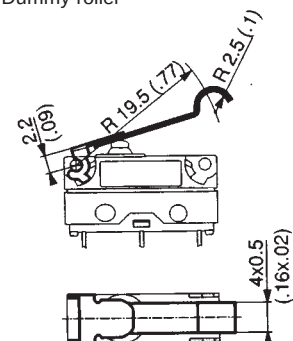
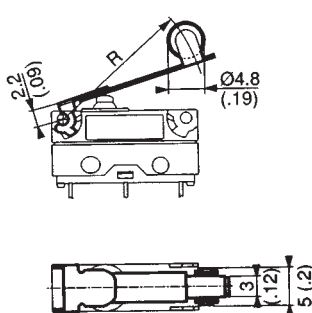
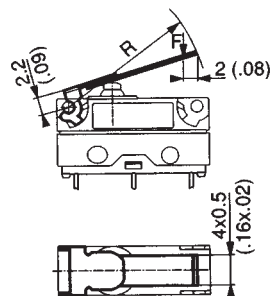
### Mounting positions



A, B, C  
Flat

E  
Roller

F  
Dummy roller



mm (in.)

### Recommendations for operation from the side



Products and specifications subject to change without notice.