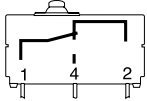


General specifications

Layout



Components

Material

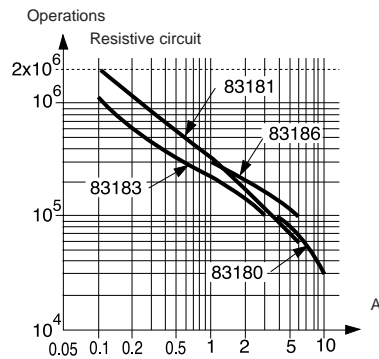
- Case : UL 94VO glass-filled polyester
- Button : Polyester
- Membrane : silicon
- Contacts : AgCdO
AgNi (dual current),
- Terminals : tinned brass
- Cable : PVC (IP 67)
- Leads : PVC

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

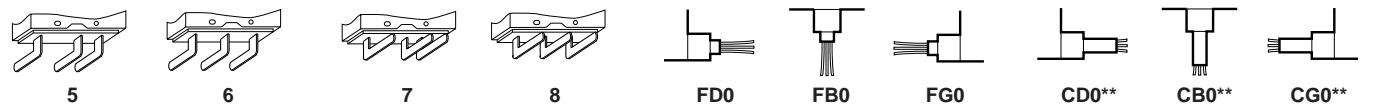
Catalog products produced to order



| | | | |
|---------------------|---------------------|---------------------|---------------------|
| 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 |
|--|--------------------------------------|---|--|--|

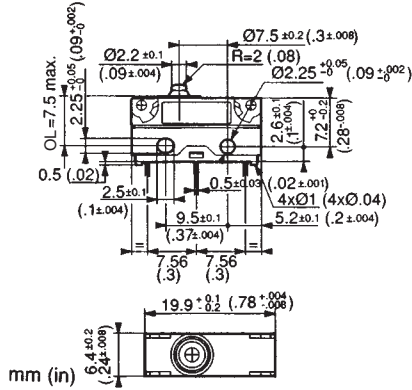
To order actuators separately, use the 8 digit P/N

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

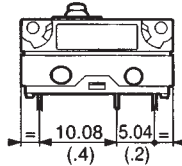
Sealed Subminiature Switches DIN 41635 B

Dimensions

Symmetric



Asymmetric

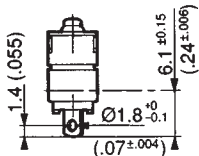


Fixed by 2 x M2 screws
Torque for screw alone: 0.2 Nm (1.75 in. lbs.)
screw + washer: 0.3 Nm (2.65 in. lbs.)

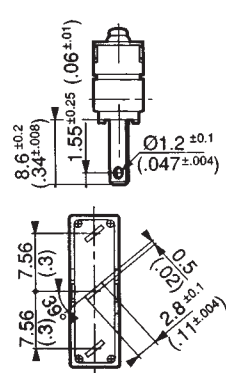
Connections

Terminals

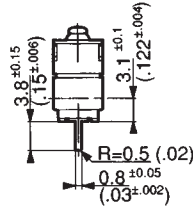
2 Solder



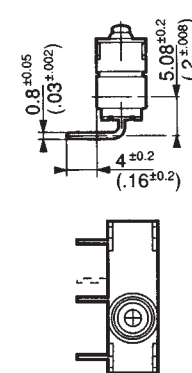
1 Faston 2.8 x 0.5
.110" Quick Connects



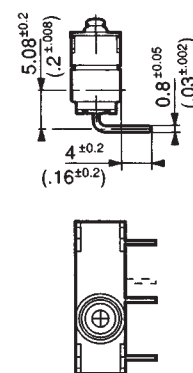
3 - 4 Straight PCB output



5 - 6 Side output,
PCB rear

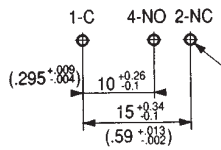


7 - 8 Side output,
PCB front

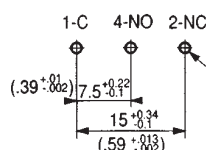


Printed circuit board mounting

Asymmetric
3, 5, 7

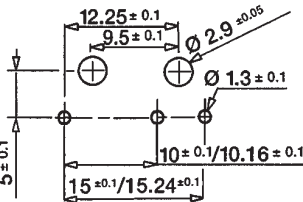


Symmetric
4, 6, 8

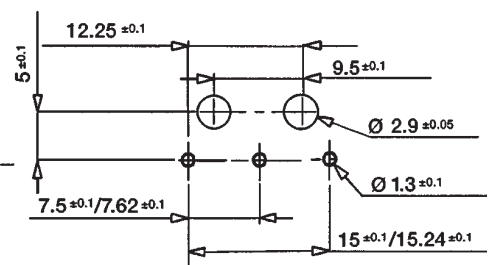


Mounting on a printed circuit board with mounting pins

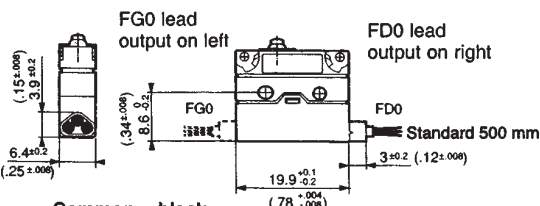
Asymmetric



Symmetric

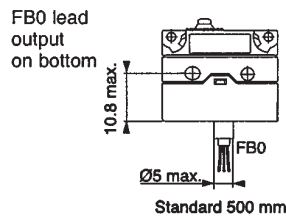


Lead output

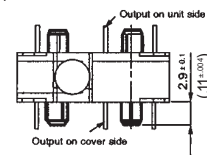


Common = black
NC = brown
NO = blue
mm (in)

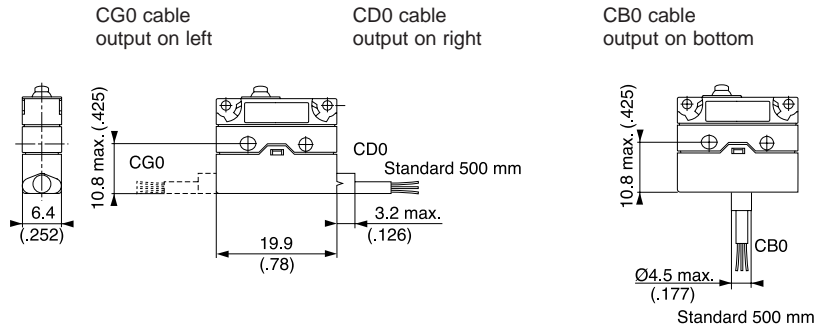
Conductor cross-section :
83181 / 83183 / 83186 = $3 \times 0.5 \text{ mm}^2$ ($.12 \times .02 \text{ in}^2$)
83180 = $3 \times 0.75 \text{ mm}^2$ ($.12 \times .03 \text{ in}^2$)



Mounting pins



Cable output



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

Common = black
 NC = brown
 NO = blue

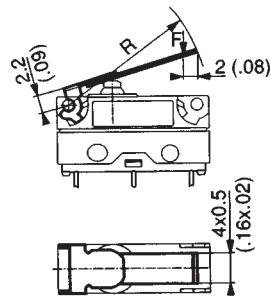
mm (in.)

Actuators

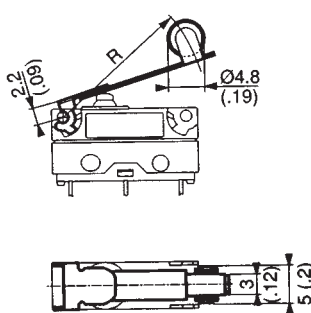
Mounting positions



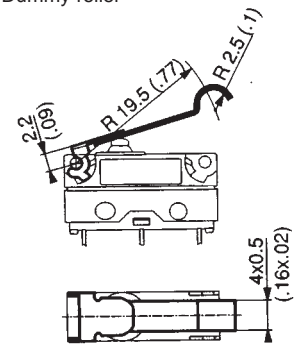
A, B, C
 Flat



E
 Roller



F
 Dummy roller



mm (in.)

Recommendations for operation from the side

