

Sealed

→ V4 Sealed



- IP 67 protection
- Nominal ratings 0.1 A to 10 A/250 VAC
- Minimum rating 1 mA/4 VDC
- Operating temperature -40°C to +125°C
- Choice of actuators with 2 possible fixing positions



Main specifications

		High-current 83 180	Dual-current 83 181	Medium current 83 183	Standard 83 186
Function	Connections				
I (changeover)	W2S	●	●	●	83 186 001
I (changeover)	W7S	●	●	●	83 186 002
I (changeover)	FD0	●	●	●	83 186 003
I (changeover)	X1A* - X1S* - X2A* - X2S* - X3A* - X3S* - FB0 - FG0 - CD0** - CB0** - CG0**	83 180 0	83 181 0	83 183 0	83 186 0
R (normally closed)	W2S - W7S - FD0 - FB0 - FG0 - CD0** - CB0** - CG0**	83 180 6	83 181 6	83 183 6	83 186 6
C (normally open)	W2S - W7S - FD0 - FB0 - FG0 - CD0** - CB0** - CG0**	83 180 8	83 181 8	83 183 8	83 186 8
Electrical characteristics					
Rating nominal / 250 V AC (A)		10	6	3	6
Rating thermal / 250 V AC (A)		12.5	7.5	4	7.5
Mechanical characteristics					
Maximum operating force (N)		3,4	2,5	2,5	2,5
Min. Release force (N)		1	0,8	0,8	0,8
Maximum total travel force (N)		5	4,2	4,2	4,2
Max. permitted overtravel force (N)		10	10	10	10
Maximum rest position (mm)		9,3	9,3	9,3	9,3
Tripping point (mm)		8,4 ^{+0,3}	8,4 ^{+0,3}	8,4 ^{+0,3}	8,4 ^{+0,3}
Maximum differential travel (mm)		0,1	0,1	0,1	0,1
Min. overtravel (mm)		0,6	0,6	0,6	0,6
Ambient operating temperature for blade version (°C)		-40 → +125	-40 → +125	-40 → +125	-40 → +125
Ambient operating temperature for wires/cable version (°C)		-40 → +105	-40 → +105	-40 → +105	-40 → +105
Mechanical life (operations)		10 ⁶	2x10 ⁶	2x10 ⁶	2x10 ⁶
Contact gap (mm)		0,4	0,4	0,4	0,4
Weight (tag version) g		2	2	2	2
Comments					

* Type 83 180 available on request

** Cable version for types 83 181, 83 183 and 83 186

Additional specifications

Components

Material

- Case : polyester UL 94VO
- Button : polyester
- Membrane : silicon
- Contacts : AgCdO or AgSnO₂
gold-plated AgNi (dual-current)
- Terminals : silver-plated, tinned brass
- Cable/Lead : PVC

Levers

- Flat : stainless steel
- Roller : stainless steel, polyamide roller

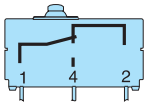
Product adaptations



- Special levers
- Specific fixings
- Special leads, cables, cable harnesses
- NF - UL - cUL approvals

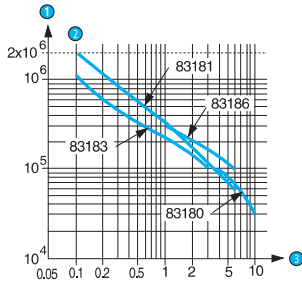
Principles

Single break changeover switch



Curves

Operating curve 250 VAC



Switch rating with DC supply

		83 180	83 181	83 183	83 186
12 V	Resistive	10 A	6 A	3 A	6 A
	Inductive L/R5 ms	10 A	6 A	3 A	6 A
24 V	Resistive	10 A	6 A	3 A	6 A
	Inductive L/R5 ms	5 A	5 A	3 A	5 A

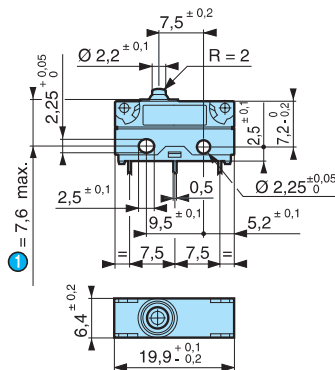
- ① Number of cycles
- ② Resistive circuit
- ③ Current in Amps

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.

Dimensions

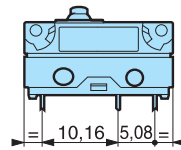
→ Product

Symmetrical version types 83 180 / 181 / 183 / 186



① OL = 7.6 max.

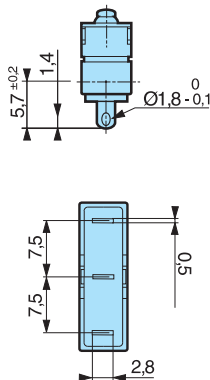
Asymmetrical version types 83 180 / 181 / 183 / 186



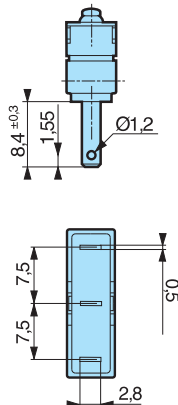
Fixed by 2 M2 screws
Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

→ Connections

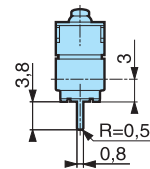
W2S Solder



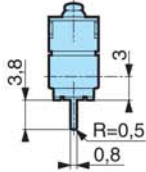
W7S Faston 2.8 x 0.5



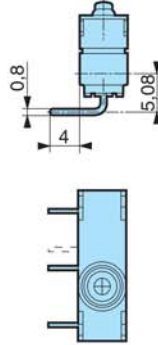
X1A Straight PCB output



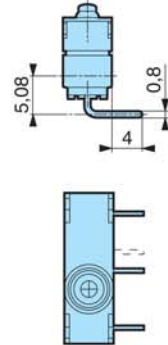
X1S
Straight PCB output



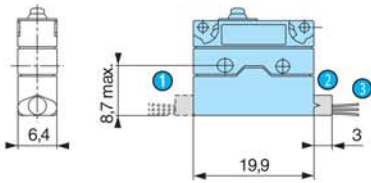
X2A - X2S
Side outputs, PCB rear



X3A - X3S
Side outputs, PCB front



Lead outputs

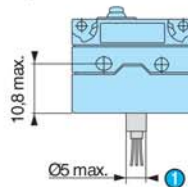


- 1 FG0
- 2 FD0
- 3 Standard 500 mm

Black = Common
Grey = NC
Blue = NO

Conductor cross-section :
83181 / 83 183 / 83 186 = 0.5 mm²
83 180 = 0.75 mm²

Lead/cable output
CB0 cable output on bottom

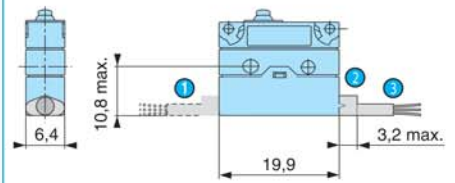


- 1 Standard 500 mm

Black = Common
Grey = NC
Blue = NO

Conductor cross-section :
83181 / 83 183 / 83 186 = 0.5 mm²
83 180 = 0.75 mm²

Cable outputs



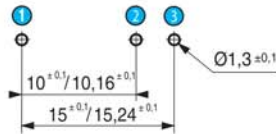
- 1 CG0
- 2 CD0
- 3 Standard 500 mm

Black = Common
Grey = NC
Blue = NO

Conductor cross-section :
83181 / 83 183 / 83 186 = 3 x 0.5 mm²

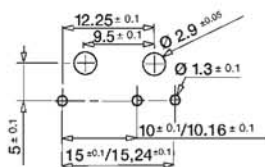
→ **Drilling**

Printed circuit board mounting
Asymmetrical
X1A, X2A, X3A

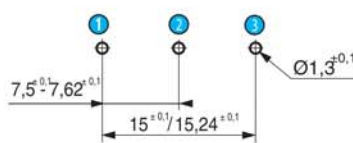


- 1 1.C
- 2 4.NO
- 3 2.NC

Mounting on a printed circuit board
with fixing pins
Asymmetrical

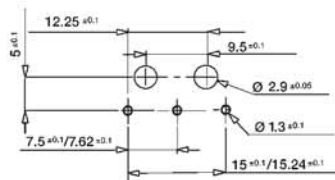


Printed circuit board mounting
Symmetrical
X1S, X2S, X3S



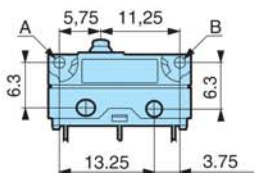
- 1 1.C
- 2 4.NO
- 3 2.NC

Mounting on a printed circuit board
with fixing pins
Symmetrical



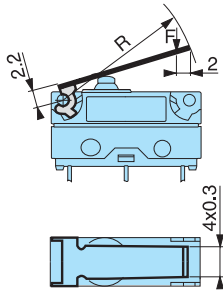
→ **Actuator mounting positions**

Fixing position

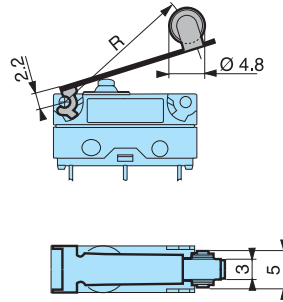


→ Actuators

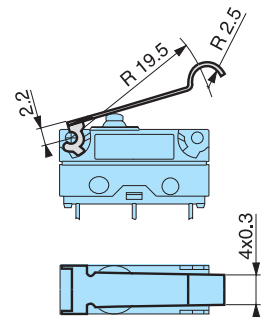
170 A
Flat



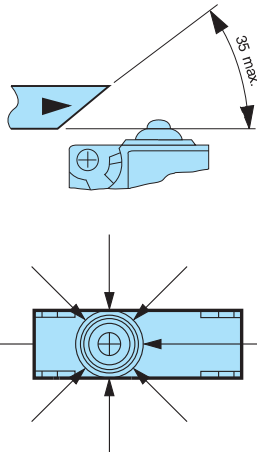
170 E
Roller



170 F
Dummy roller

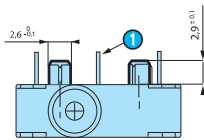


Recommendations for operation from the side



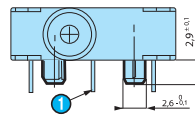
→ Mounting accessories

Fixing pins





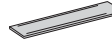

① X2 output


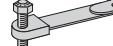
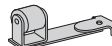
Fixing pins



① X3 output

Actuators and fixing positions

Part numbers for standard actuators	79 253 327		79 253 326		79 218 454			
Actuators	Flat 170A R18,3		Flat 170A R24		Flat 170A R41		Roller 170E R20	
								
Mounting position	A	B	A	B	A	B	A	B
Coefficient	3	1,5	4	2	7	3,5	3	1,5
Tripping point	10 ^{±1,4}	9,2 ^{±0,9}	10,7 ^{±1,7}	9,6 ^{±1}	12,7 ^{±3}	10,6 ^{±1,8}	15,5 ^{±1,4}	14,5 ^{±0,9}
83 180					11 ^{±3}	8,8 ^{±1,8}		
83 181 / 183 / 186					11,4 ^{±3}	9,3 ^{±1,8}		

Part numbers for standard actuators	79 253 329		
Actuators	Dummy roller 170F R19,5	Screw 170D *	Transverse roller 170 EL *
			
Mounting position	A	B	
Coefficient	3	1,5	
Tripping point	12,9 ^{±1,5}	11,9 ^{±1,1}	

Except where otherwise indicated, levers are supplied unmounted.

For factory mounting, specify fixing position A or B.

* To special order

Other information

Mounting - Operation

See basic technical concepts

Degree of protection

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

To calculate force : divide the switch force by the coefficient in the table.

To calculate travel : multiply the switch travel by the same coefficient.