



## V4 8318 Sealed High-current 83180 Part number made to order



- 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

### Part numbers

	Type	Function	Connections
831800	High-current 83180	I (changeover)	X1A* - X1S* - X2A* - X2S* - X3A* - X3S* - FB0 - FG0 - CD0** - CB0** - CG0**

### Specifications

#### Electrical characteristics

Rating nominal / 250 VAC (A)	10
Rating thermal / 250 VAC (A)	12,5

#### Mechanical characteristics

Maximum operating force (N)	3,4
Min. Release force (N)	1
Maximum total travel force (N)	5
Max. permitted overtravel force (N)	10
Maximum rest position (mm)	9,3
Operating position (mm)	8,4 ±0,3
Maximum differential travel (mm)	0,1
Min. overtravel (mm)	0,6
Ambient operating temperature for blade version (°C)	-40 → +125
Ambient operating temperature for wires/cable version (°C)	-40 → +105
Mechanical life (operations)	10 <sup>6</sup>
Contact gap (mm)	0,4
Weight (g) (tags version)	2

### Comments

- \* Type 83180 available on request
- \*\* Cable version for types 83181, 83183 and 83186

### Additional specifications

#### Components

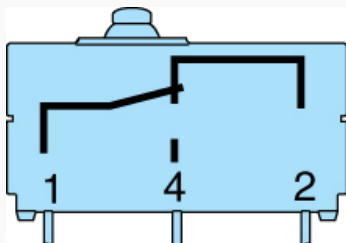
##### Material

- Case : polyester UL 94VO
- Button : polyester
- Membrane : silicon
- Contacts : AgCdO or AgSnO<sub>2</sub> gold-plated AgNi (dual-current)
- Terminals : silver-plated, tinned brass
- Cable/Lead : PVC

##### Lever

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

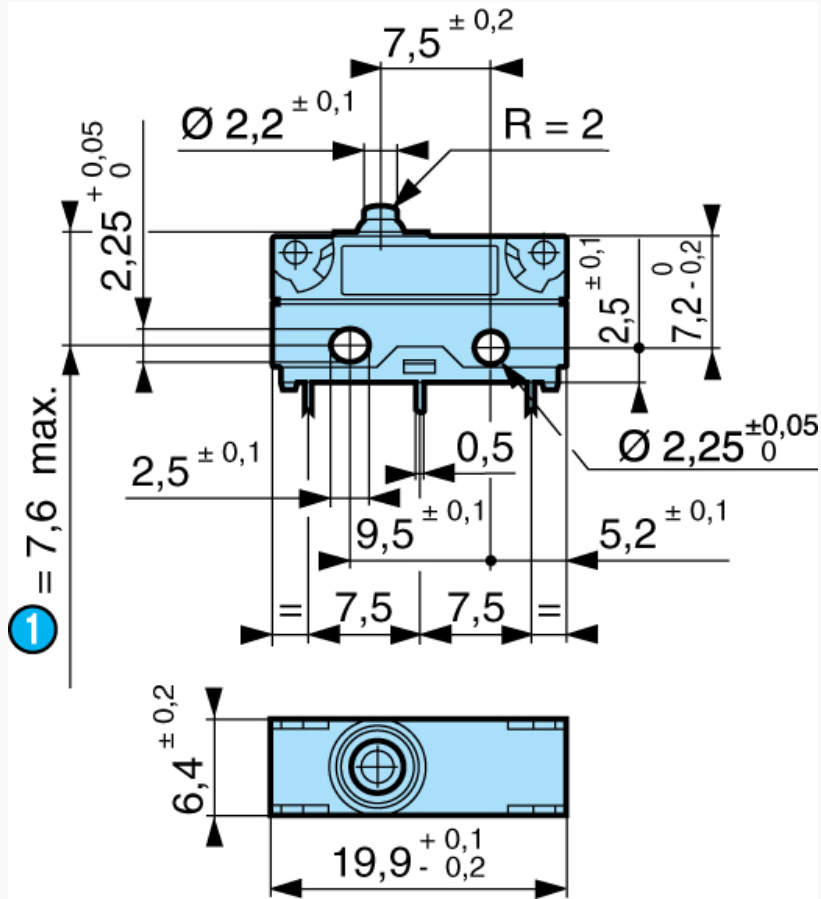
### Principles



## Dimensions (mm)

## Product

Symmetrical version  
types 83180 / 181 / 183 / 186

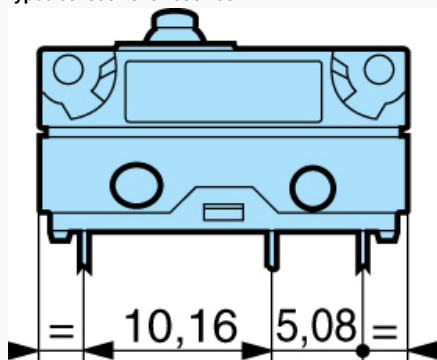


N°	Legend
1	OL = 7.6 max.

## Dimensions (mm)

## Product

Asymmetrical version  
types 83180 / 181 / 183 / 186

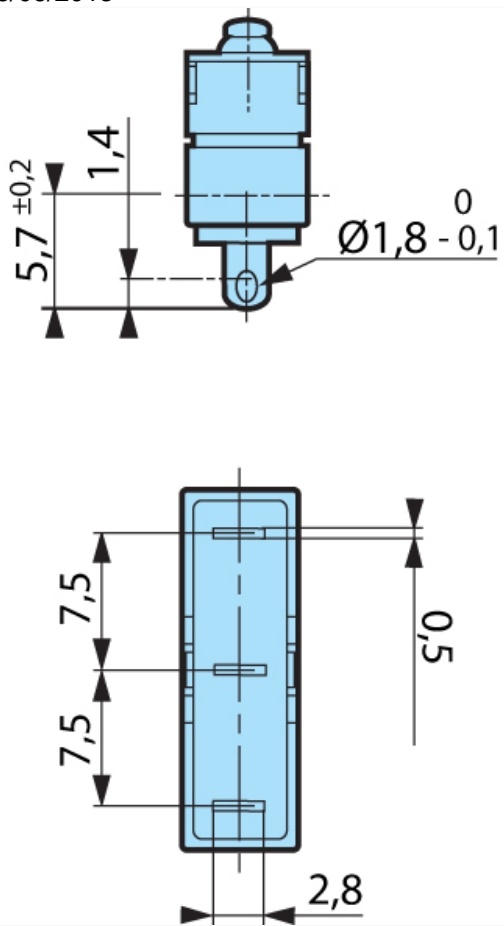


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

## Dimensions (mm)

## Connections

W2S  
Solder

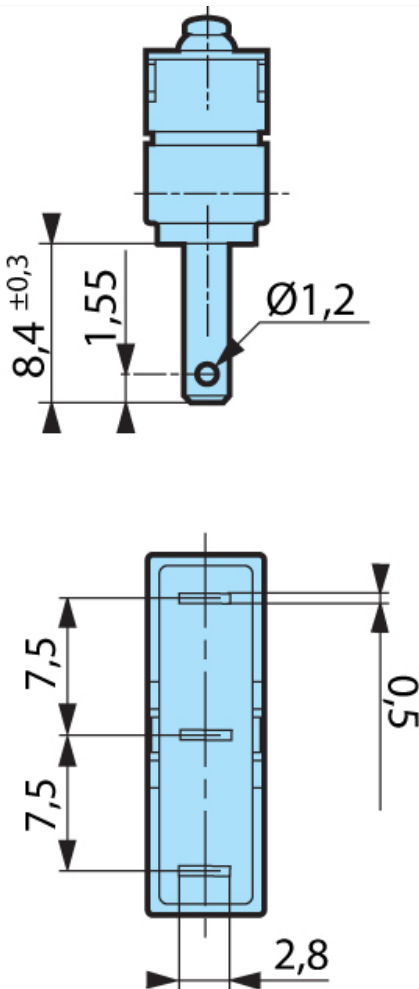


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#### Dimensions (mm)

#### Connections

**W7S**  
Faston 2.8 x 0.5

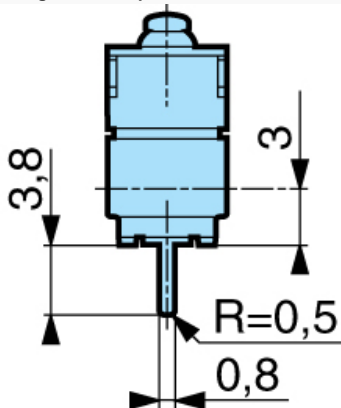


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

#### Dimensions (mm)

#### Connections

X1A  
Straight PCB output

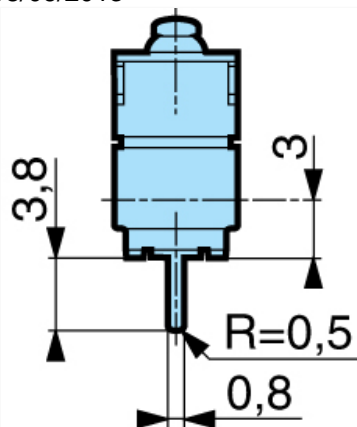


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

#### Dimensions (mm)

#### Connections

X1S  
Straight PCB output

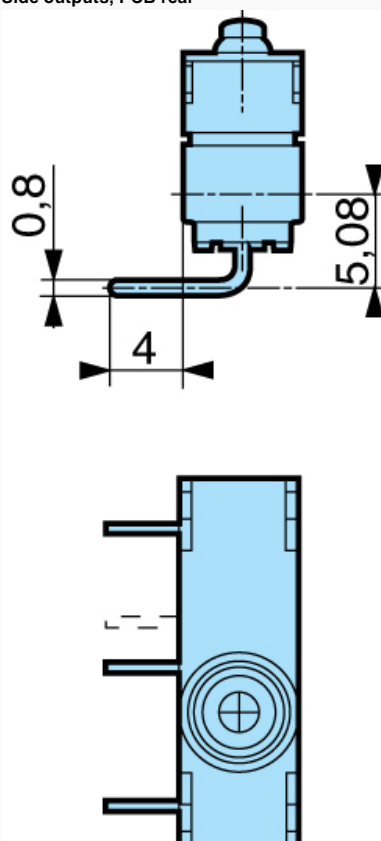


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

#### Dimensions (mm)

#### Connections

X2A - X2S  
Side outputs, PCB rear

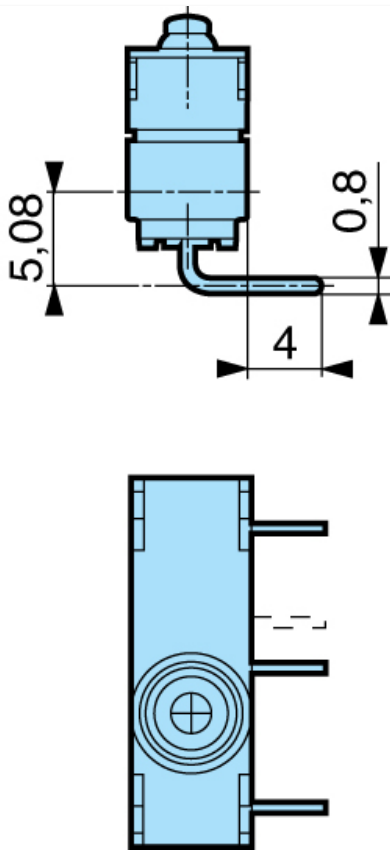


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

#### Dimensions (mm)

#### Connections

X3A - X3S  
Side outputs, PCB front

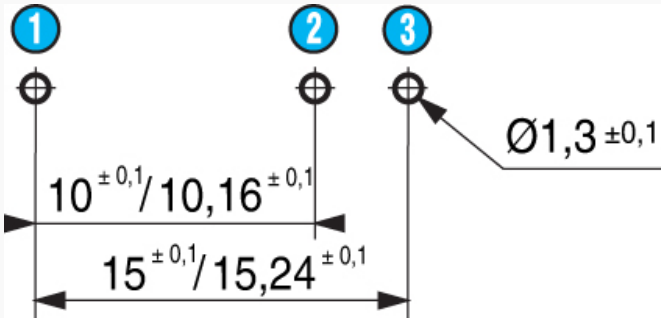


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

**Dimensions (mm)**

**Drilling**

**Printed circuit board mounting**  
**Asymmetrical**  
**X1A, X2A, X3A**



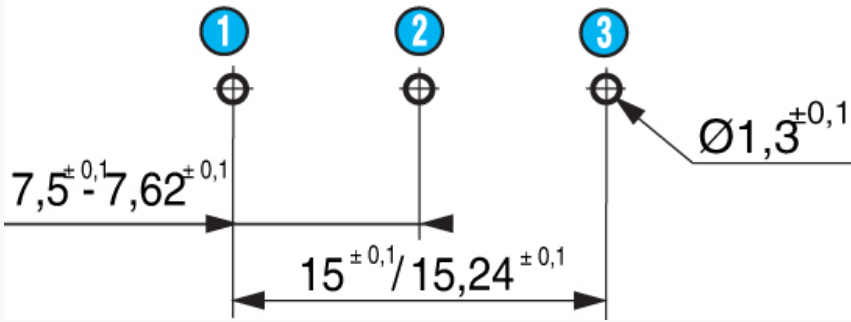
Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

N°	Legend
1	1.C
2	4.NO
3	2.NC

**Dimensions (mm)**

**Drilling**

**Printed circuit board mounting**  
**Symmetrical**  
**X1S, X2S, X3S**



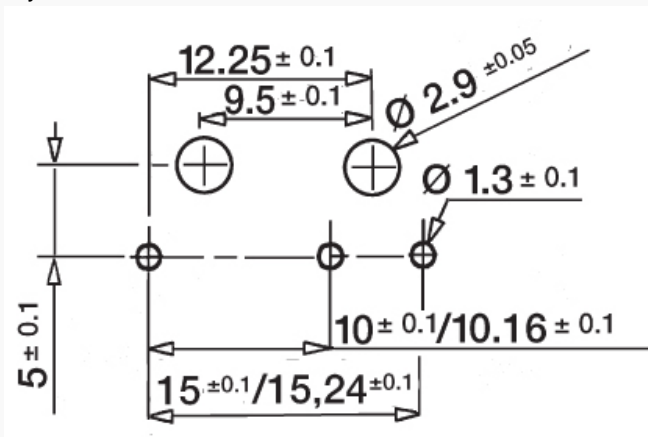
Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

N°	Legend
1	1.C
2	4.NO
3	2.NC

Dimensions (mm)

Drilling

Mounting on a printed circuit board with fixing pins  
Asymmetrical

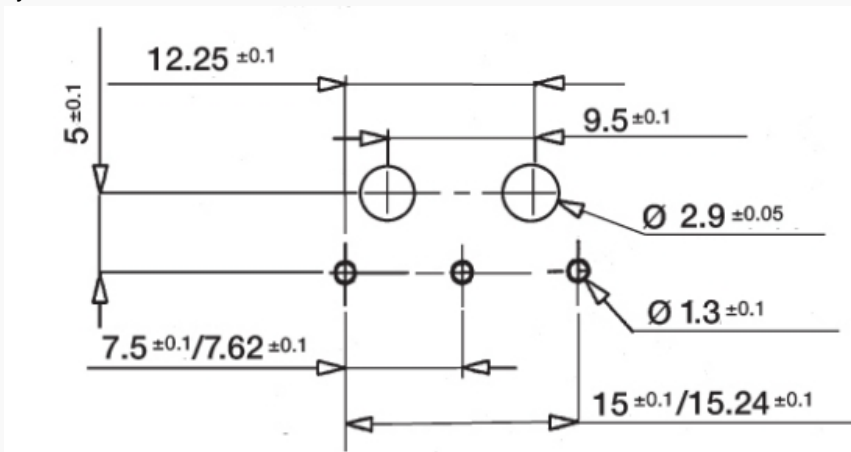


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Drilling

Mounting on a printed circuit board with fixing pins  
Symmetrical



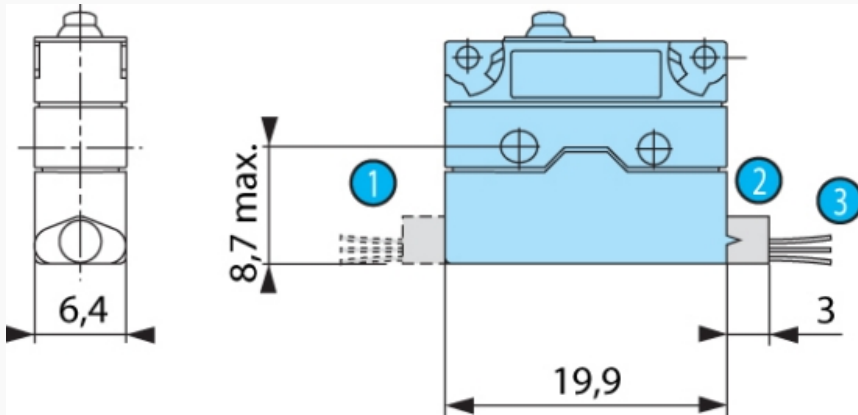
Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

## Dimensions (mm)

## Connections

## Lead outputs

FG0 lead output on left - FD0 lead output on right

Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 0.5 mm<sup>2</sup> 83180 = 0.75 mm<sup>2</sup>

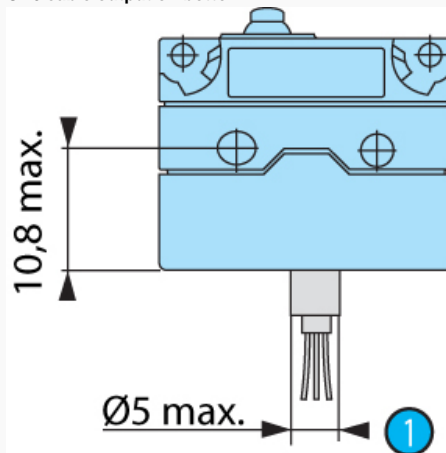
N°	Legend
1	FG0
2	FD0
3	Standard 500 mm

## Dimensions (mm)

## Connections

## Lead/cable output

CB0 cable output on bottom

Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 0.5 mm<sup>2</sup> 83180 = 0.75 mm<sup>2</sup>

N°	Legend
1	Standard 500 mm

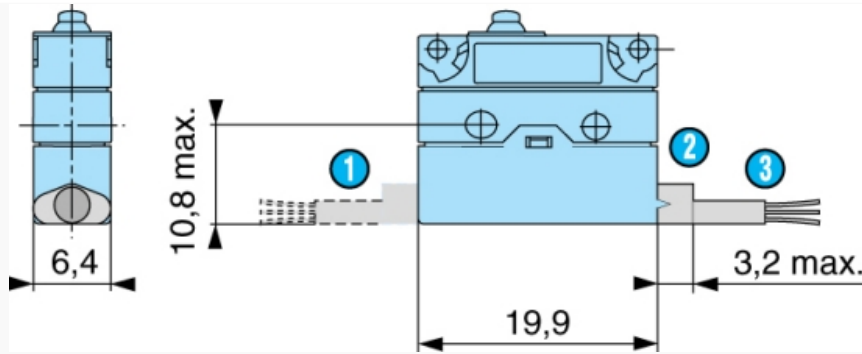
## Dimensions (mm)

## Connections

## Cable outputs

CG0 cable output on left - CD0 cable output on right





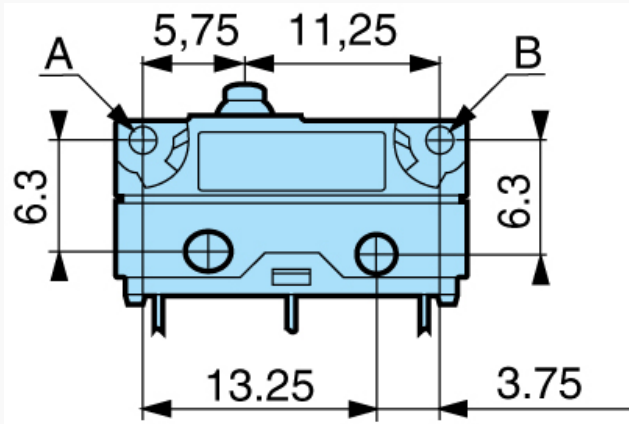
Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm<sup>2</sup>

N°	Legend
1	CG0
2	CD0
3	Standard 500 mm

Dimensions (mm)

Actuator mounting positions

Fixing position

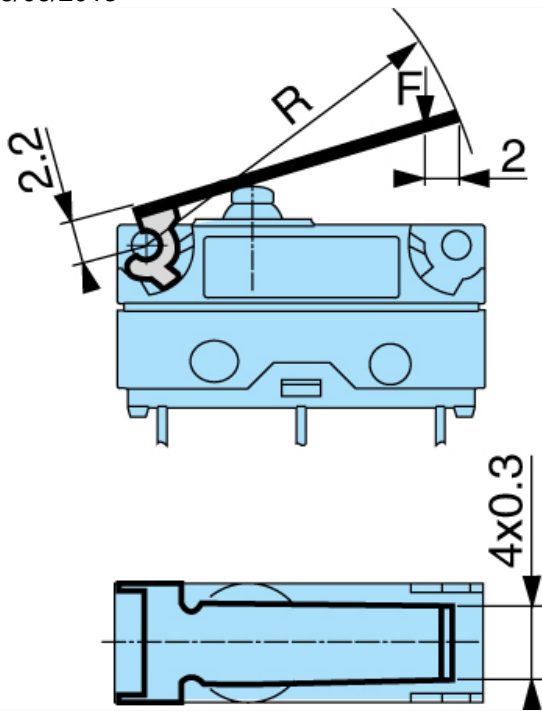


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm<sup>2</sup>

Dimensions (mm)

Actuators

170 A  
Flat

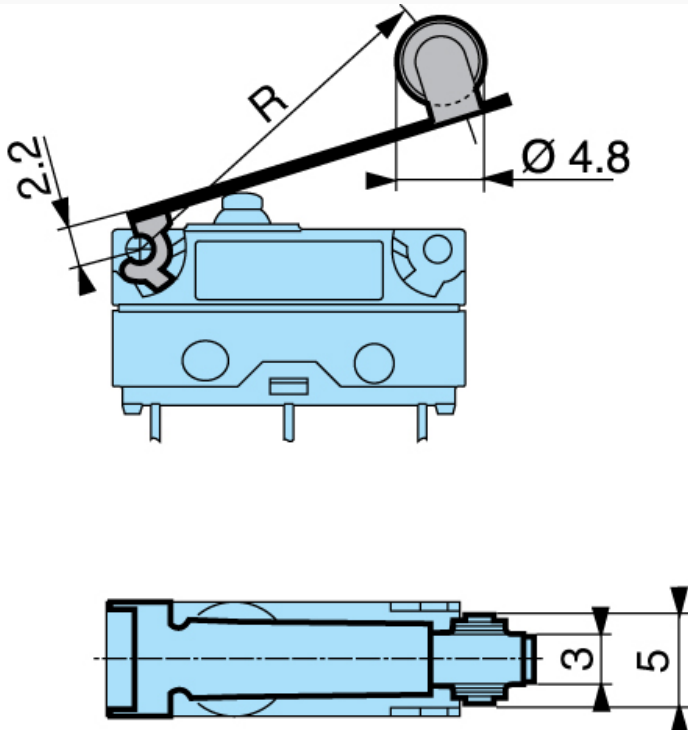


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Dimensions (mm)

Actuators

170 E  
Roller

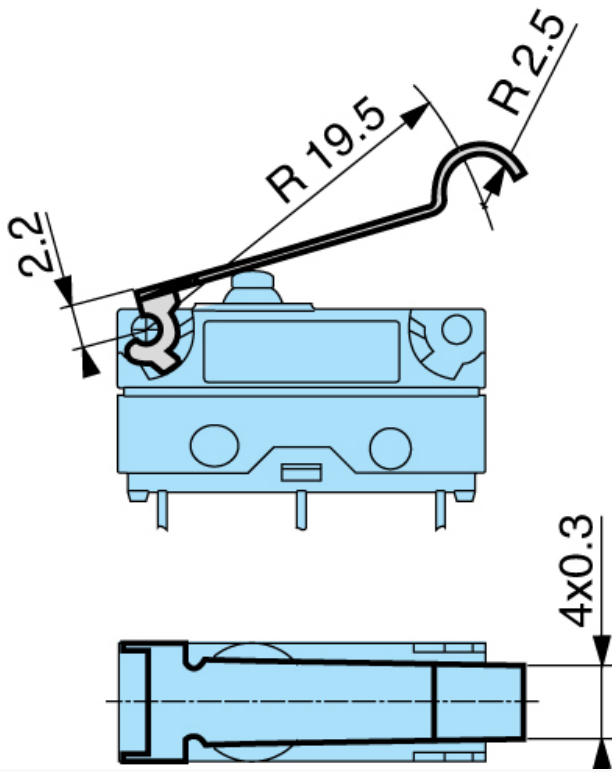


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Dimensions (mm)

Actuators

170 F  
Dummy roller

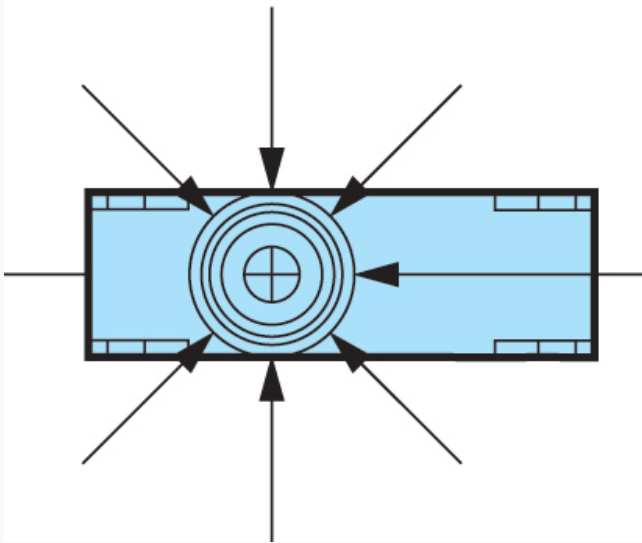
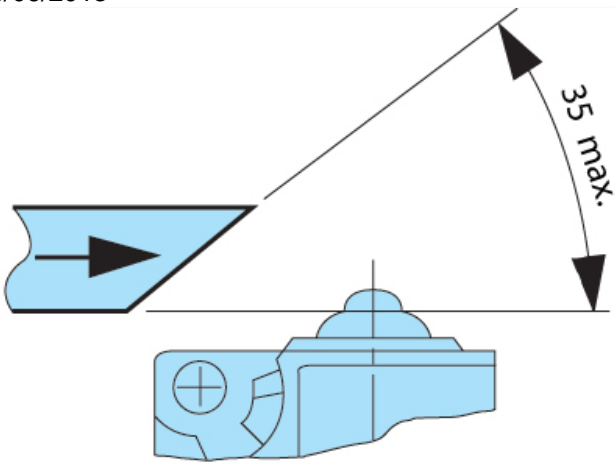


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**Dimensions (mm)**

**Actuators**

**Recommendations for operation from the side**

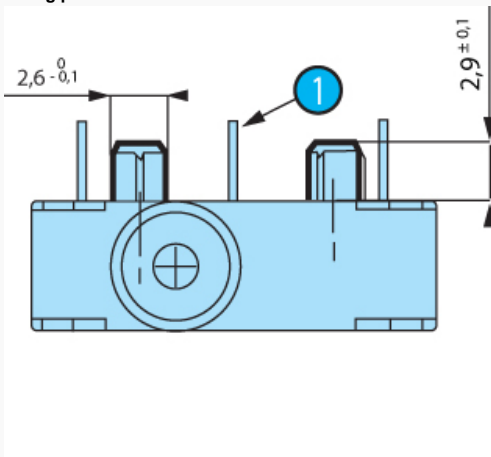


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm<sup>2</sup>

**Dimensions (mm)**

**Mounting accessories**

**Fixing pins**



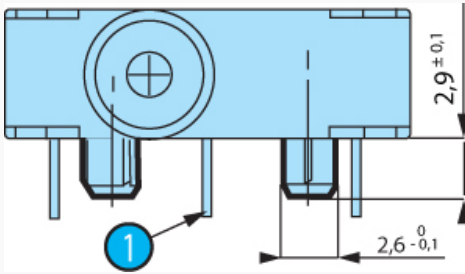
Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm<sup>2</sup>

N°	Legend
1	X2 output

Dimensions (mm)

Mounting accessories

Fixing pins

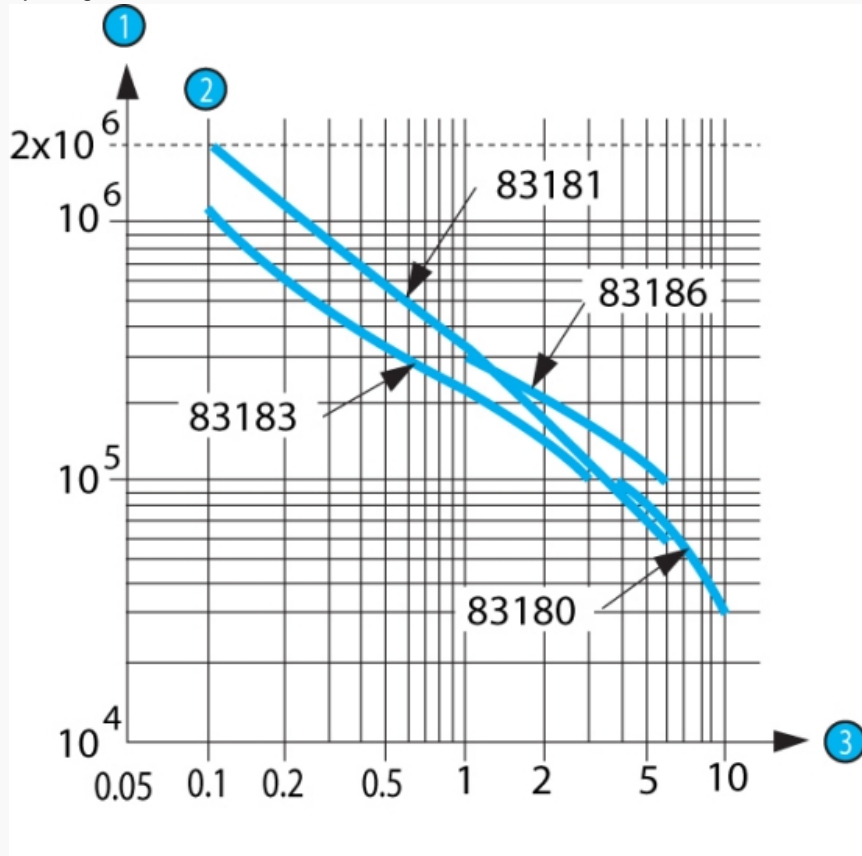


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm<sup>2</sup>

N°	Legend
①	X3 output

Curves

Operating curve 250 VAC



Model 83181 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.

N°	Legend
①	Number of cycles
②	Resistive circuit
③	Current in Amps

Curves








Switch rating with DC supply

		83180	83181	83183	83186
12 V	Resistive	10 A	6 A	3 A	6 A
	Inductive L/R 5 ms	10 A	6 A	3 A	6 A
24 V	Resistive	10 A	6 A	3 A	6 A
	Inductive L/R 5 ms	5 A	5 A	3 A	5 A

Model 83181 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.

## Connections

### Actuators and fixing positions

Part numbers for standard actuators		79253327		79253326		79218454	
Actuators		Flat 170A R18.3	Flat 170A R24	Flat 170A R41	Roller 170E R20		
							
Mounting position		A B	A B	A B	A B	A B	
Coefficient		3 1.5	4 2	7 3.5	3 1.5		
Tripping point		10 <sup>+1.4</sup> 9.2 <sup>+0.9</sup>	10.7 <sup>+1.7</sup> 9.6 <sup>+1.1</sup>	12.7 <sup>+1.3</sup> 10.6 <sup>+1.8</sup>	15.5 <sup>+1.4</sup> 14.5 <sup>+1.0</sup>		
83180				11 <sup>+1.1</sup> 8.8 <sup>+1.8</sup>			
83181 / 183 / 186				11.4 <sup>+1.1</sup> 9.3 <sup>+1.8</sup>			
Part numbers for standard actuators		79253329					
Actuators		Dummy roller 170F R19.5	Screw 170D *	Transverse roller 170 EL *			
							
Mounting position		A B					
Coefficient		3 1.5					
Tripping point		12.9 <sup>+1.3</sup> 11.9 <sup>+1.7</sup>					

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.

## Product adaptations



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