CROUZET SWITCHES

V4 Sealed 8318 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)	$8,4^{\pm 0,3}$
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)	10^6
Contact gap (mm)	0,4
Weight (g) (tags version)	2

Comments

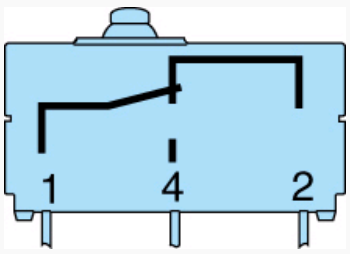
* Type 83180 available on request
** Cable version for types 83181, 83183 and 83186

Additional specifications

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

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

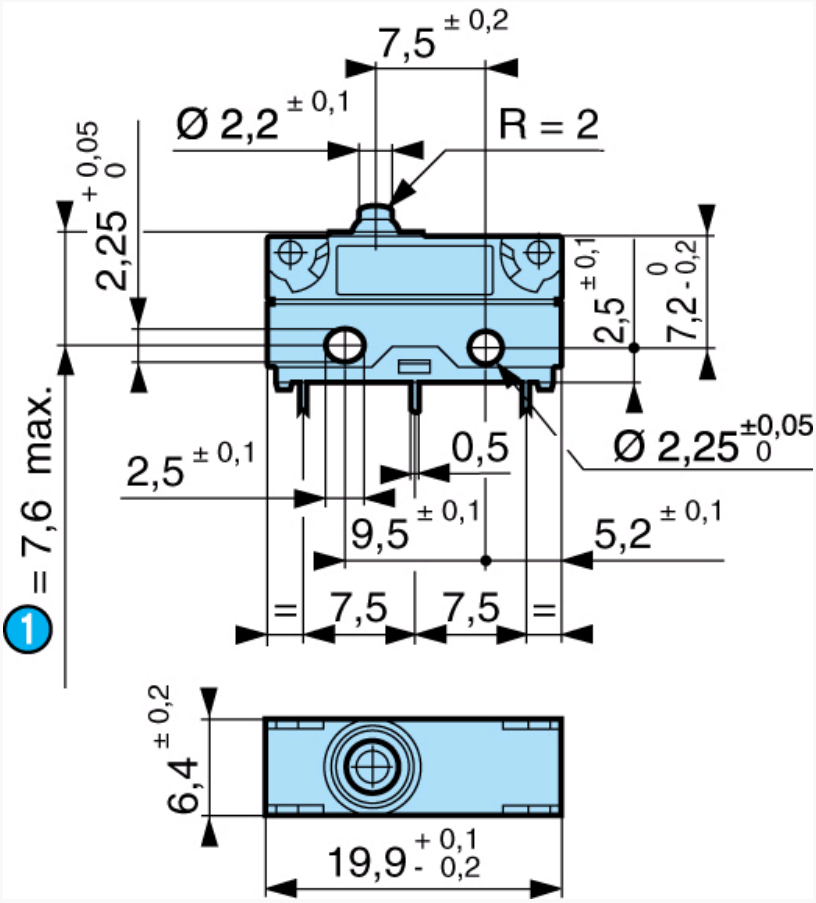
Principles



Dimensions (mm)

Product

Symmetrical version
types 83180 / 181 / 183 / 186

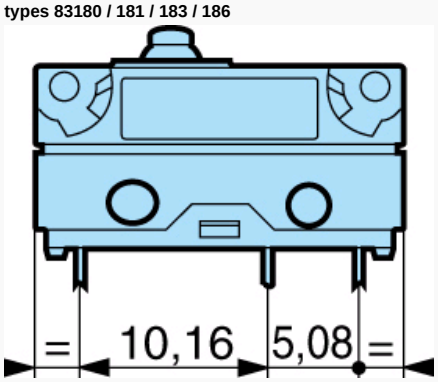


Nº	Legend
1	OL = 7.6 max.

Dimensions (mm)

Product

Asymmetrical version
types 83180 / 181 / 183 / 186

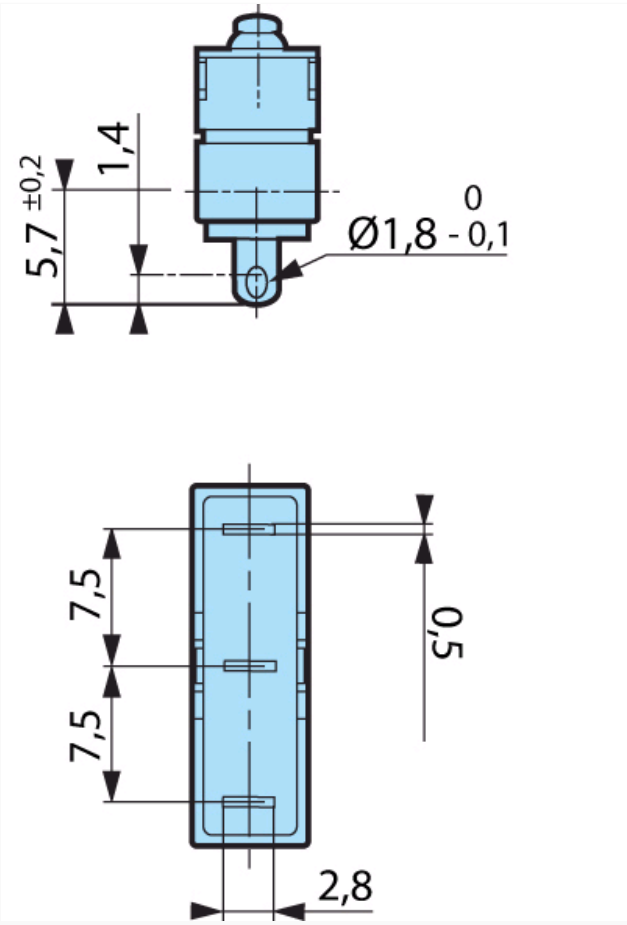


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Connections

W2S
Solder



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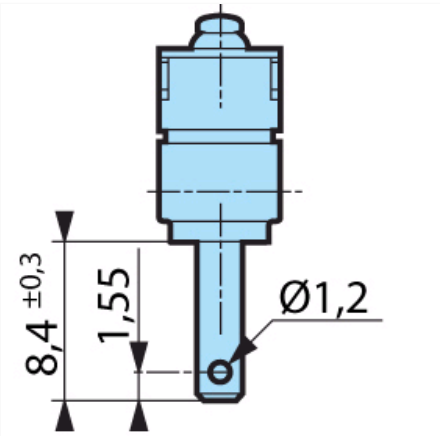
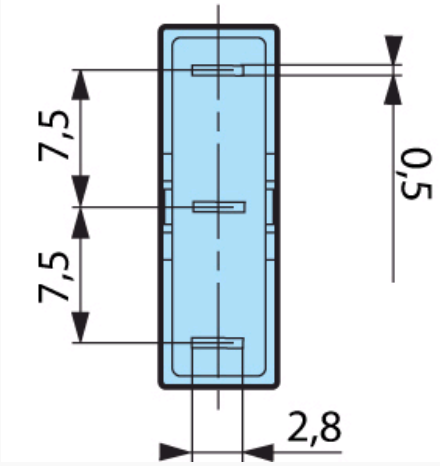
Dimensions (mm)

Connections

W7S
Faston 2.8 x 0.5



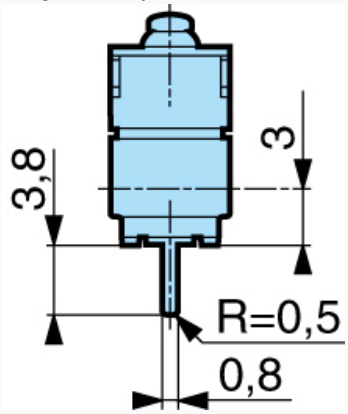


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Connections

X1A
Straight PCB output

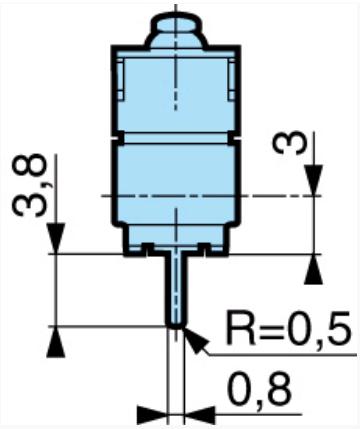


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Connections

X1S
Straight PCB output

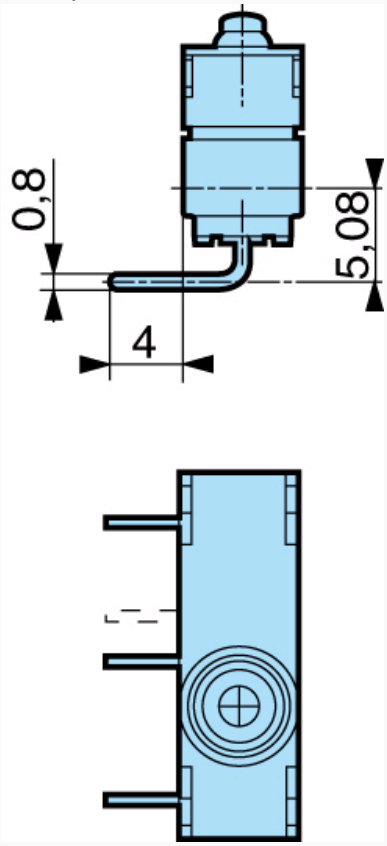


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Connections

X2A - X2S
Side outputs, PCB rear

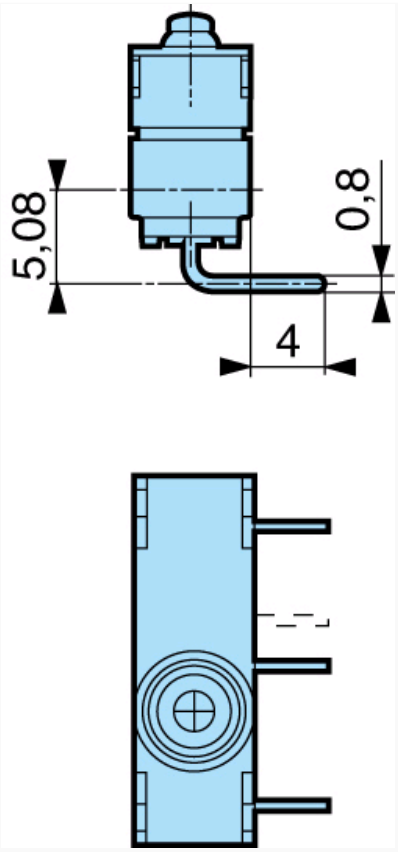


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Connections

X3A - X3S
Side outputs, PCB front

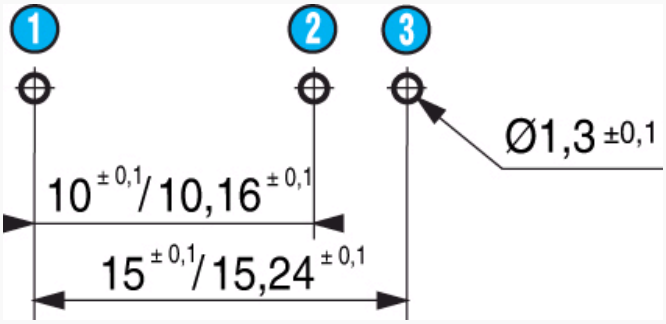


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Drilling

Printed circuit board mounting
Asymmetrical
X1A, X2A, X3A



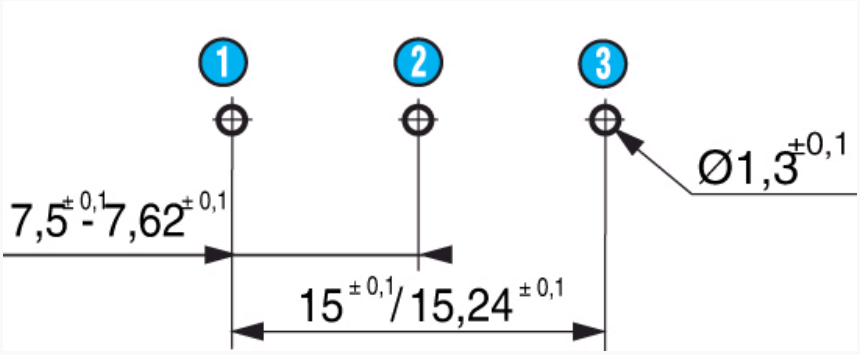
Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Nº	Legend
1	1.C
2	4.NO
3	2.NC

Dimensions (mm)

Drilling

Printed circuit board mounting
Symmetrical
X1S, X2S, X3S



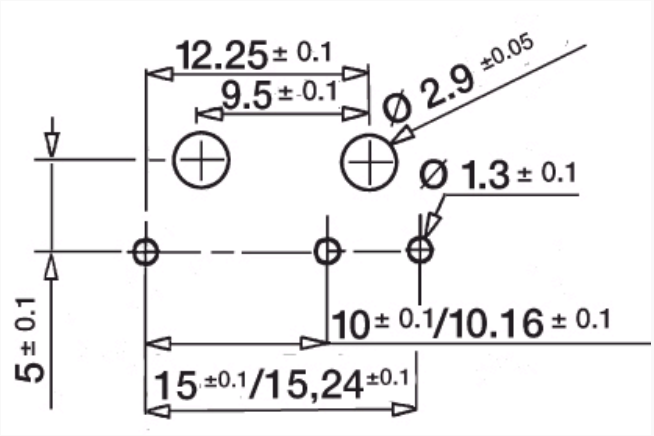
Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Nº	Legend
1	1.C
2	4.NO
3	2.NC

Dimensions (mm)

Drilling

Mounting on a printed circuit board with fixing pins
Asymmetrical

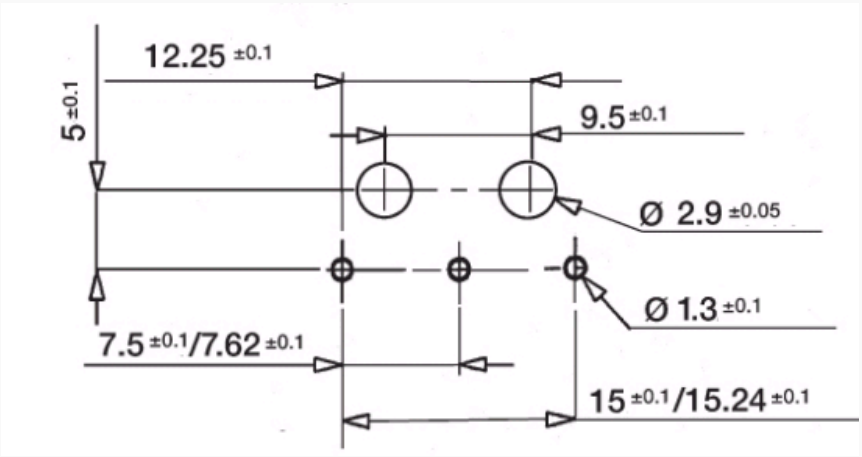


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Drilling

Mounting on a printed circuit board with fixing pins
Symmetrical

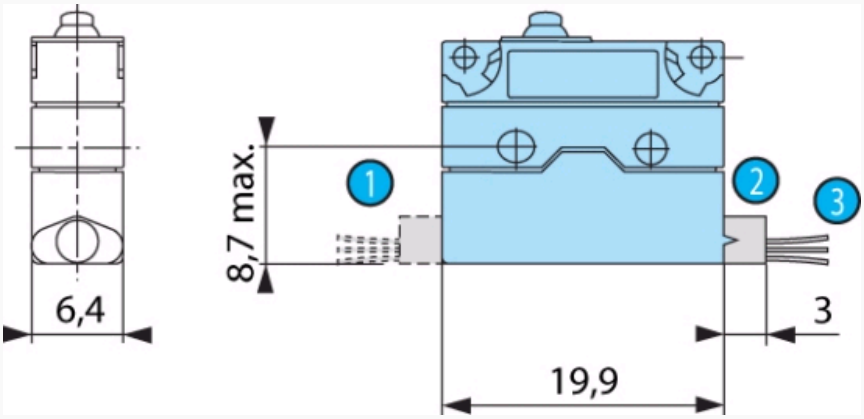


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Connections

Lead outputs
FG0 lead output on left - FD0 lead output on right



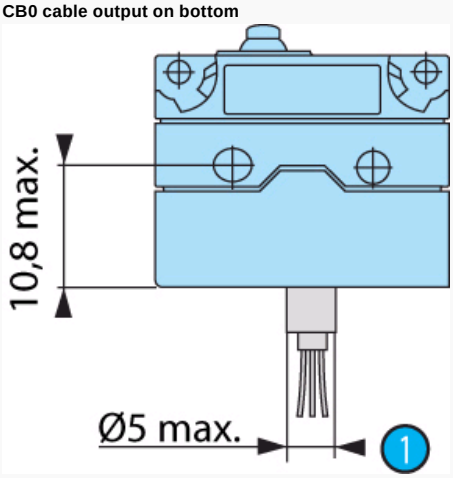
Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 0.5 mm2 83180 = 0.75 mm2

Nº	Legend
1	FG0
2	FD0
3	Standard 500 mm

Dimensions (mm)

Connections

Lead/cable output
CB0 cable output on bottom



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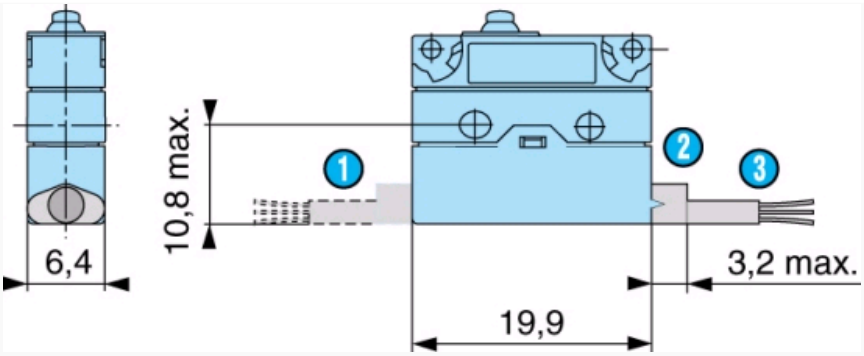
Nº	Legend
1	Standard 500 mm

Dimensions (mm)

Connections

Cable outputs
CG0 cable output on left - CD0 cable output on right



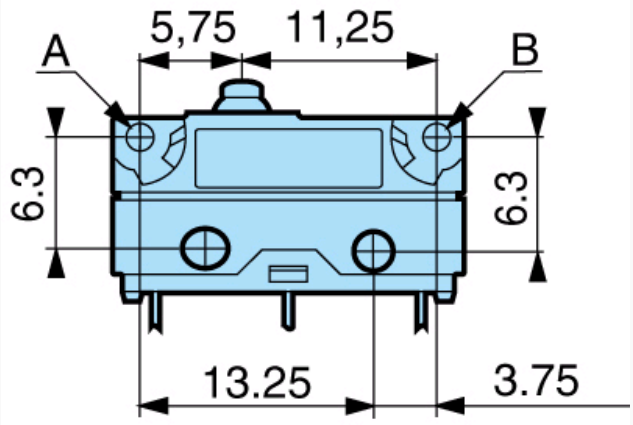
Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm2

Nº	Legend
1	CG0
2	CD0
3	Standard 500 mm

Dimensions (mm)

Actuator mounting positions

Fixing position



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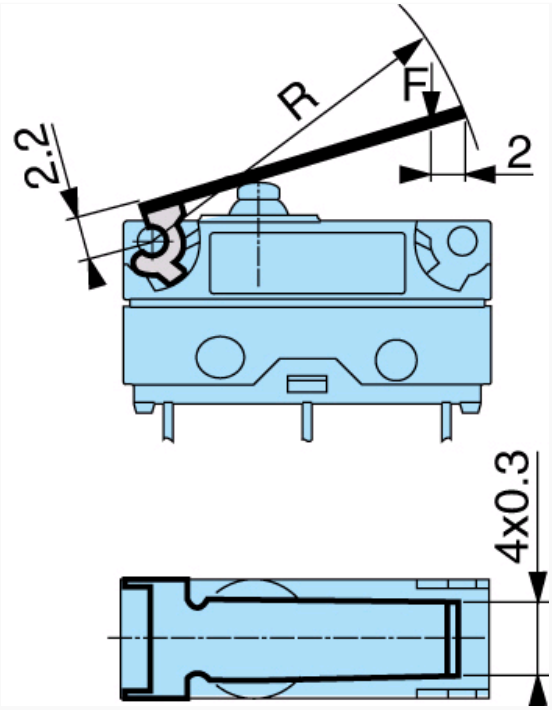
Dimensions (mm)

Actuators

170 A
Flat

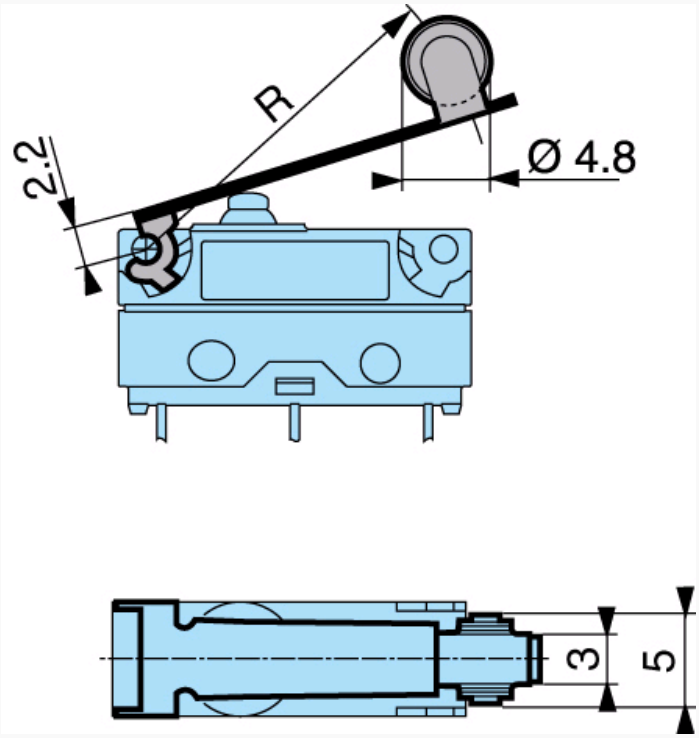


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm2

Dimensions (mm)

Actuators

170 E
Roller



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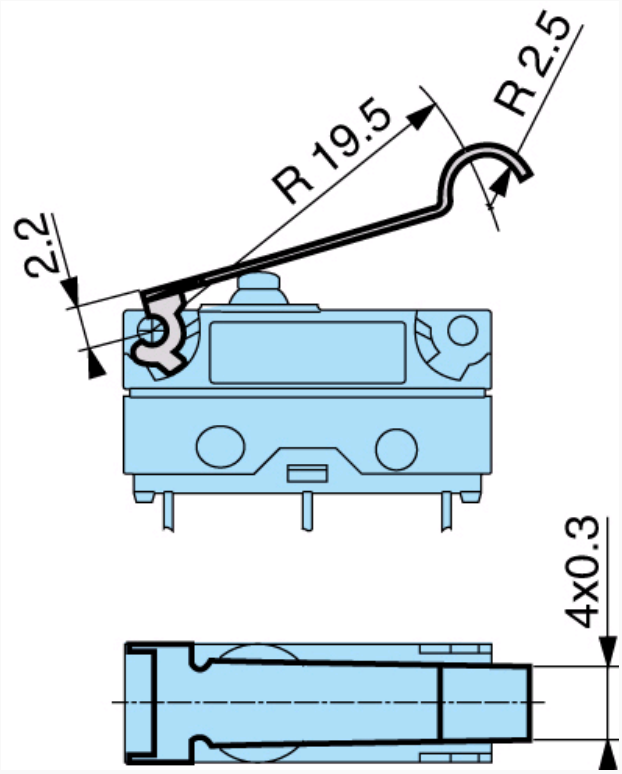
Dimensions (mm)

Actuators

170 F
Dummy roller



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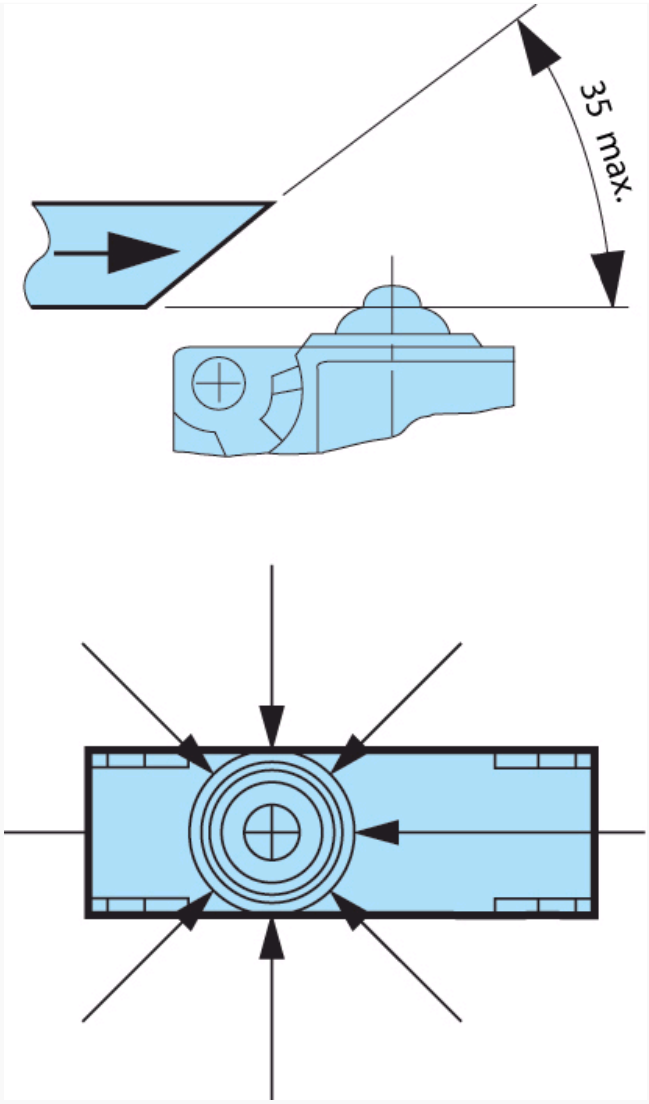
Dimensions (mm)

Actuators

Recommendations for operation from the side

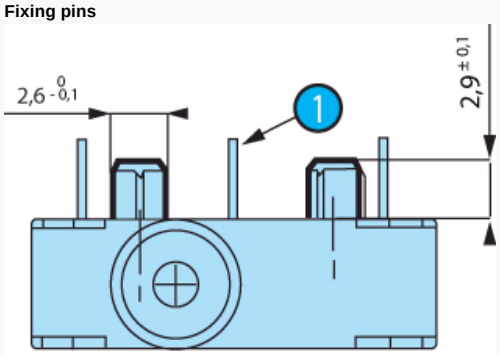


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm2

Dimensions (mm)

Mounting accessories

Fixing pins



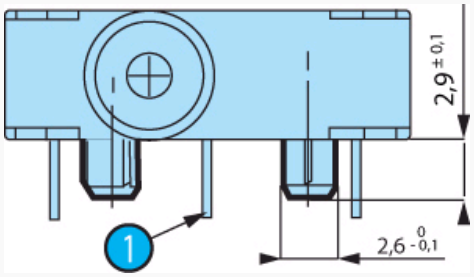
Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm2

Nº	Legend
1	X2 output

Dimensions (mm)

Mounting accessories

Fixing pins

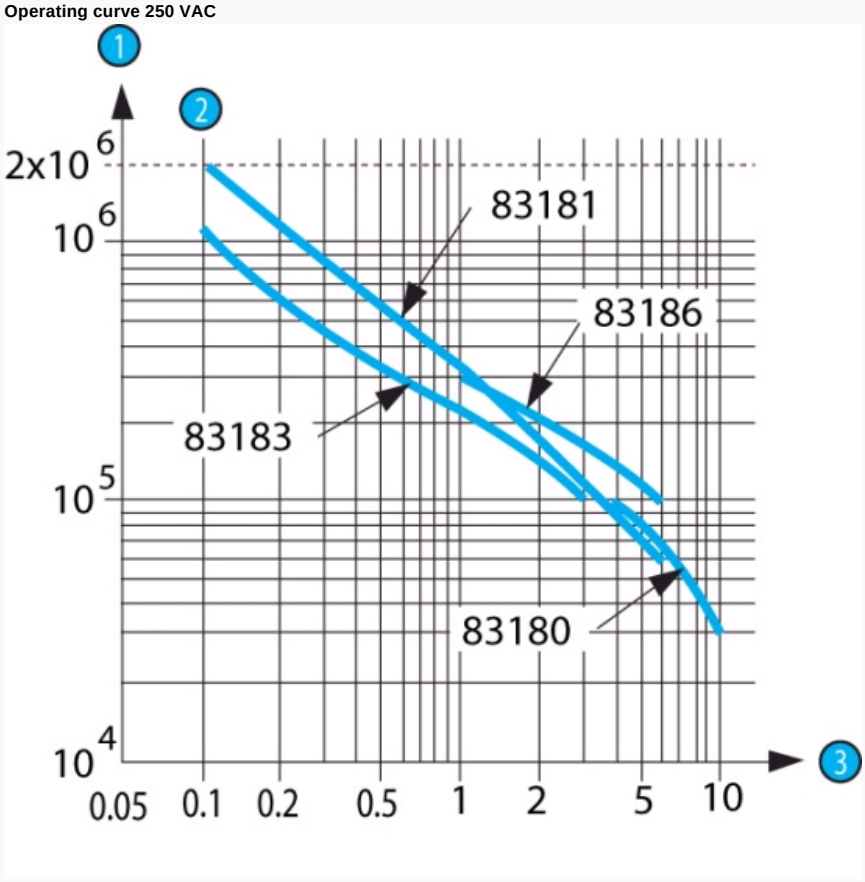


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm2

Nº	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.

Nº	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
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
83180					11 ±3	8.8 ±1.8		
83181 / 183 / 186					11.4 ±3	9.3 ±1.8		

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 ±1.3	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.

Product adaptations

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