

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
MADE TO ORDER	High-current 83180	I (changeover)	W2S

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 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

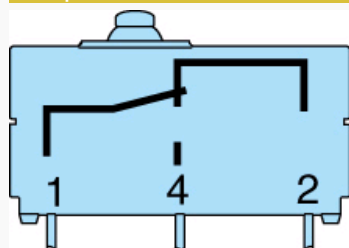
Material

- 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

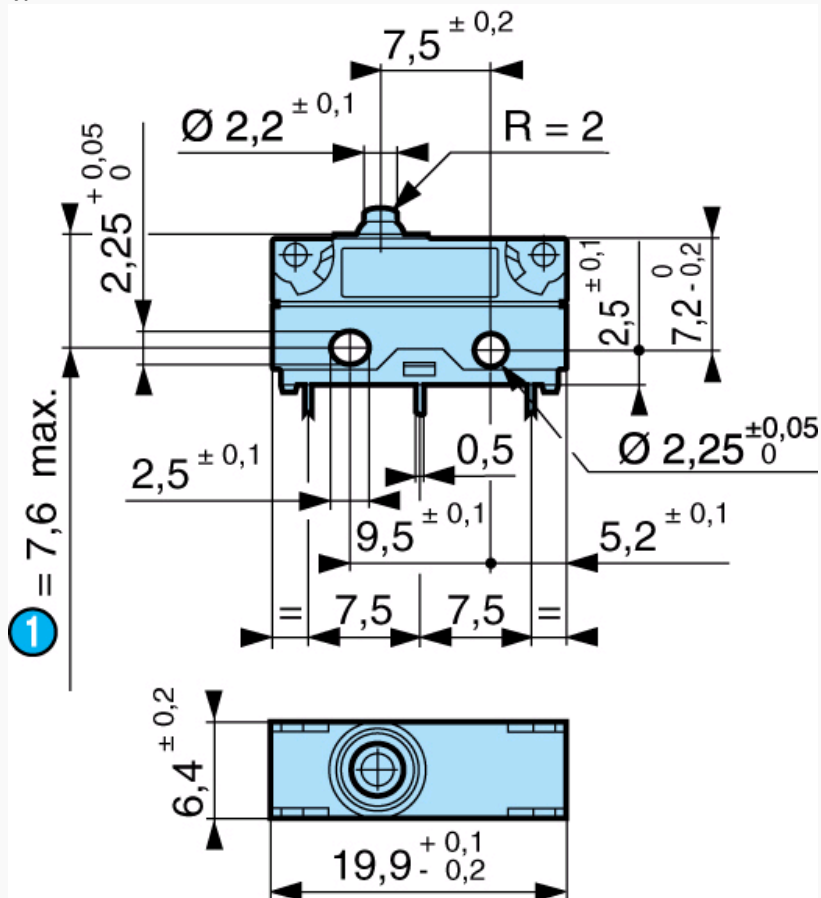
- Flat : stainless steel
- Roller : stainless steel, polyamide roller

Principles



Product

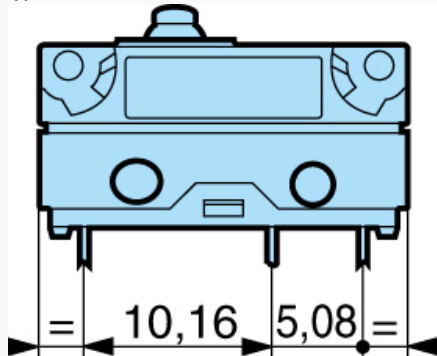
Symmetrical version
types 83180 / 181 / 183 / 186



Nº	Legend
1	OL = 7.6 max.

Product

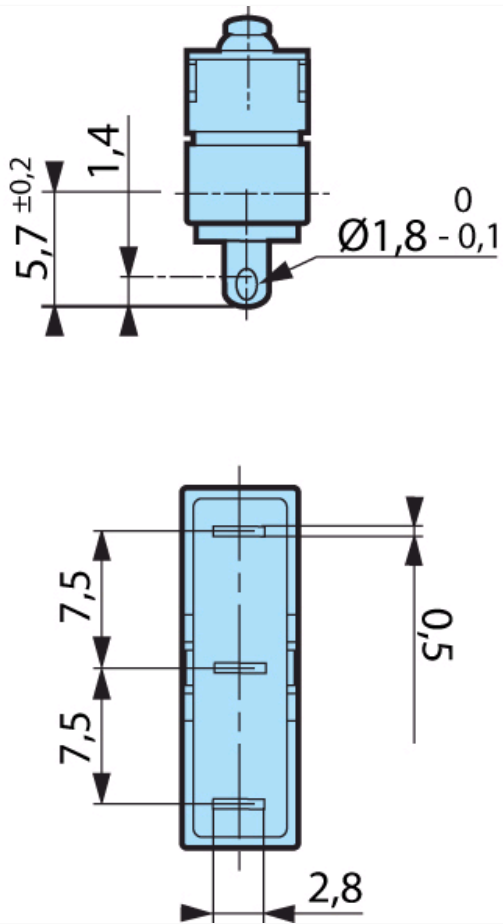
Asymmetrical version
types 83180 / 181 / 183 / 186



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

Connections

**W2S
Solder**



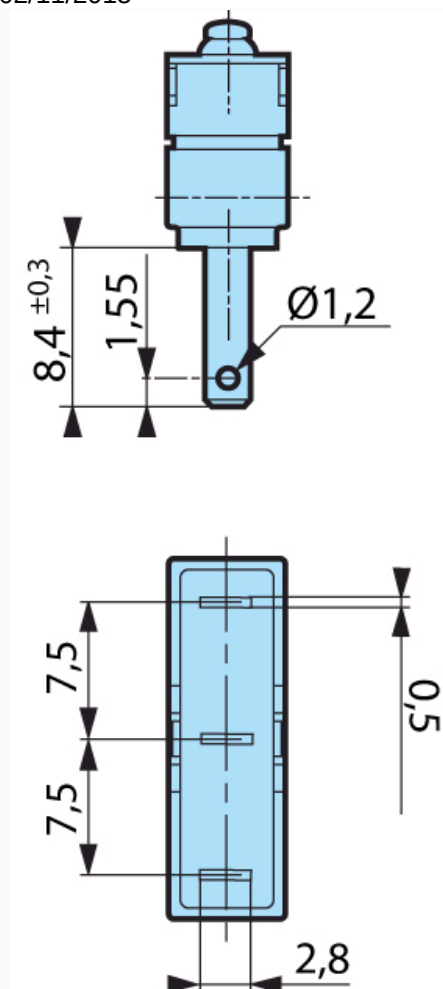
Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Connections

W7S

Faston 2.8 x 0.5

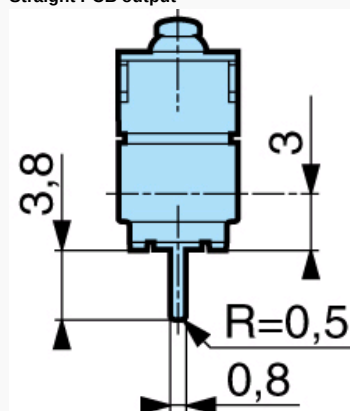


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Connections

X1A
Straight PCB output

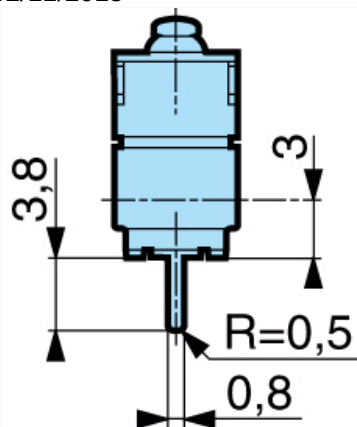


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Connections

X1S
Straight PCB output



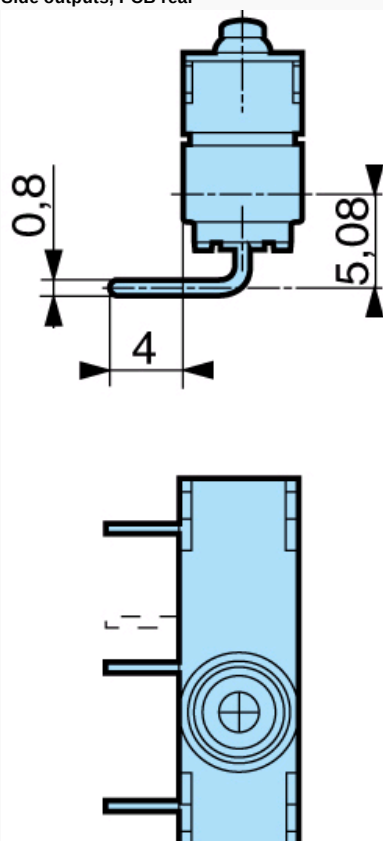
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Dimensions (mm)

Connections

X2A - X2S

Side outputs, PCB rear



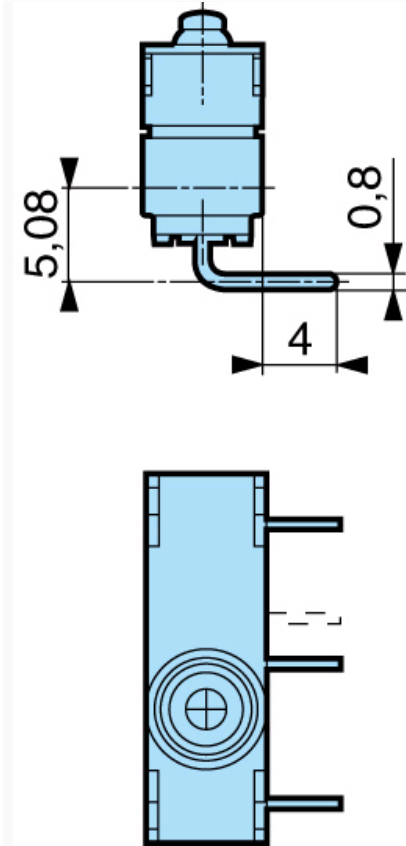
Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Connections

X3A - X3S

Side outputs, PCB front

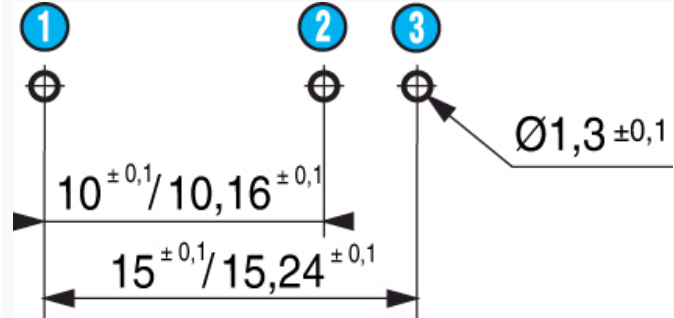


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Drilling

Printed circuit board mounting
Asymmetrical
X1A, X2A, X3A



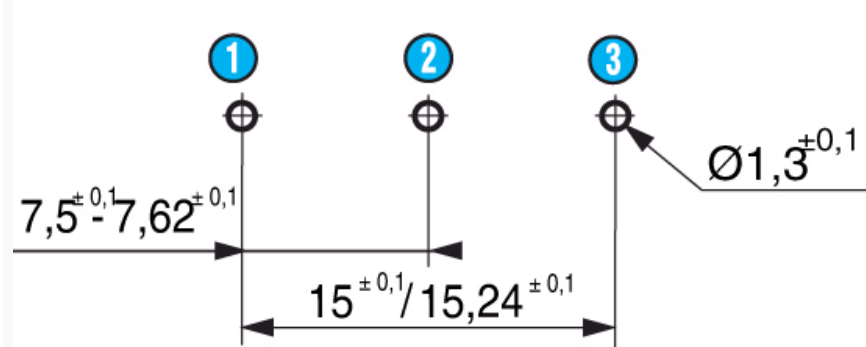
Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

N°	Legend
1	1.C
2	4.NO
3	2.NC

Dimensions (mm)

Drilling

Printed circuit board mounting
Symmetrical
X1S, X2S, X3S



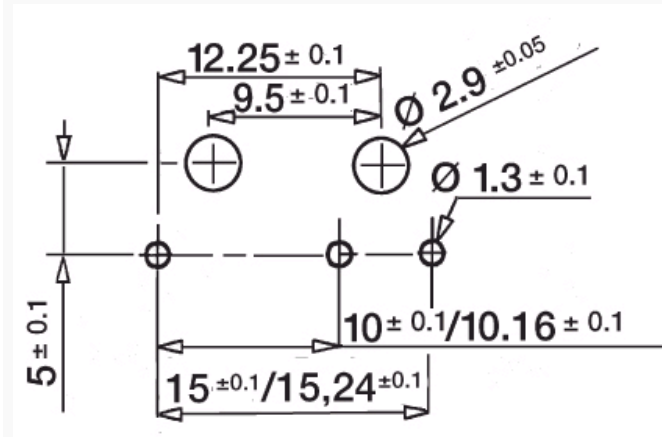
Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

N°	Legend
1	1.C
2	4.NO
3	2.NC

Dimensions (mm)

Drilling

Mounting on a printed circuit board with fixing pins
Asymmetrical

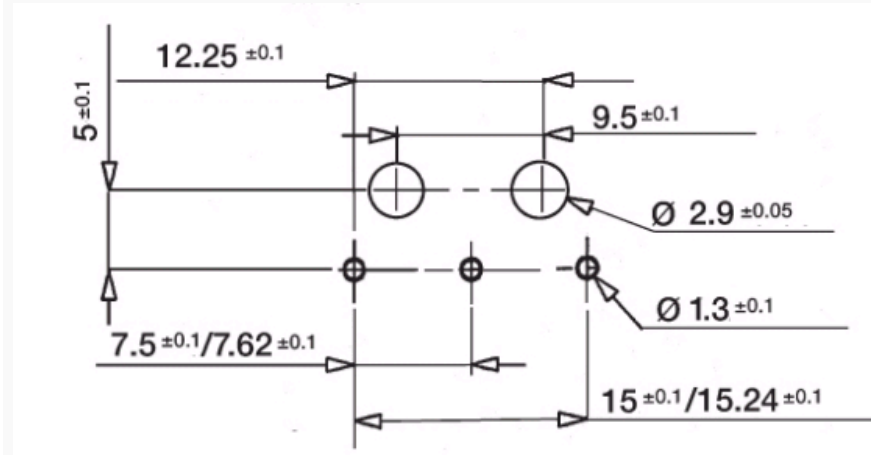


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Drilling

Mounting on a printed circuit board with fixing pins
Symmetrical

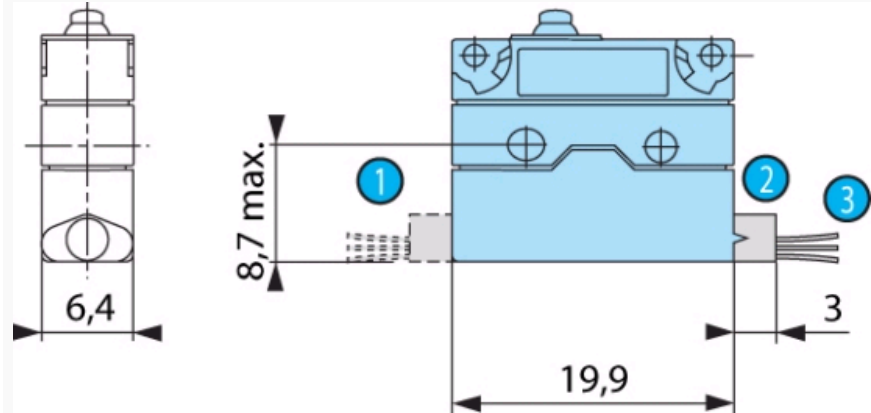


Fixed by 2 M2 screws Torque with screw only : 0.2 Nm, with screw + washer : 0.3 Nm

Dimensions (mm)

Connections

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



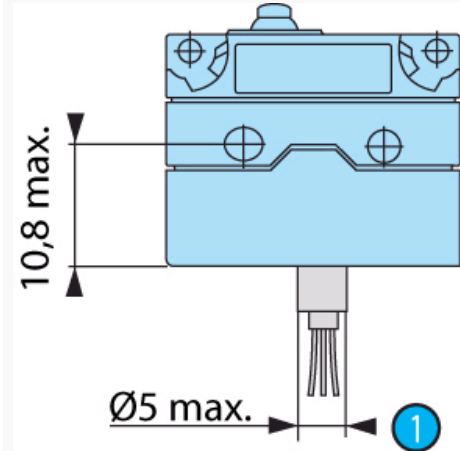
Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 0.5 mm² 83180 = 0.75 mm²

N°	Legend
1	FG0
2	FD0
3	Standard 500 mm

Dimensions (mm)

Connections

Lead/cable output
CB0 cable output on bottom



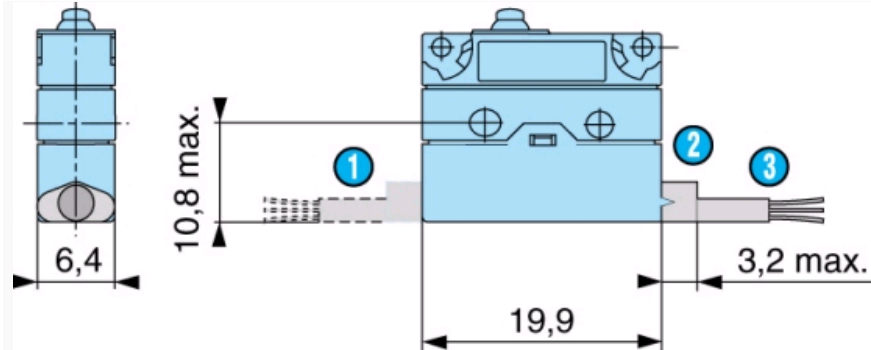
Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 0.5 mm² 83180 = 0.75 mm²

N°	Legend
1	Standard 500 mm

Dimensions (mm)

Connections

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



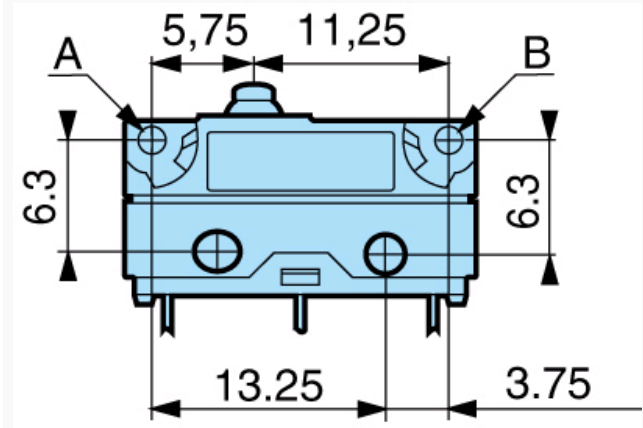
Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm2

N°	Legend
1	CG0
2	CD0
3	Standard 500 mm

Dimensions (mm)

Actuator mounting positions

Fixing position

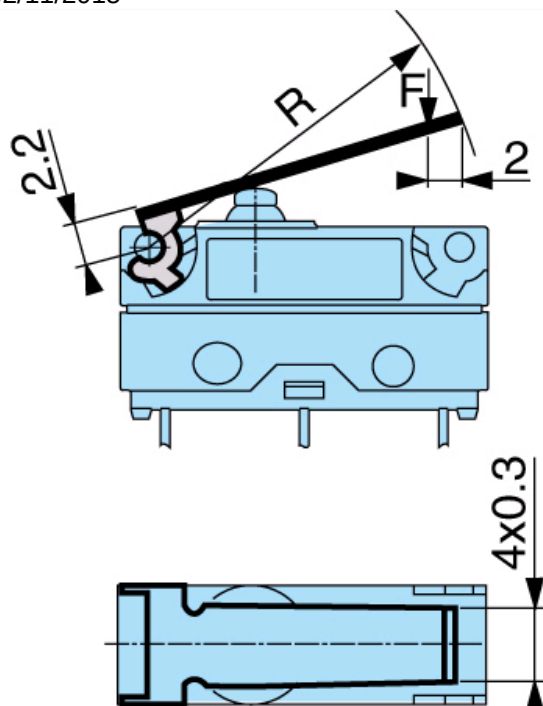


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm2

Dimensions (mm)

Actuators

170 A
Flat

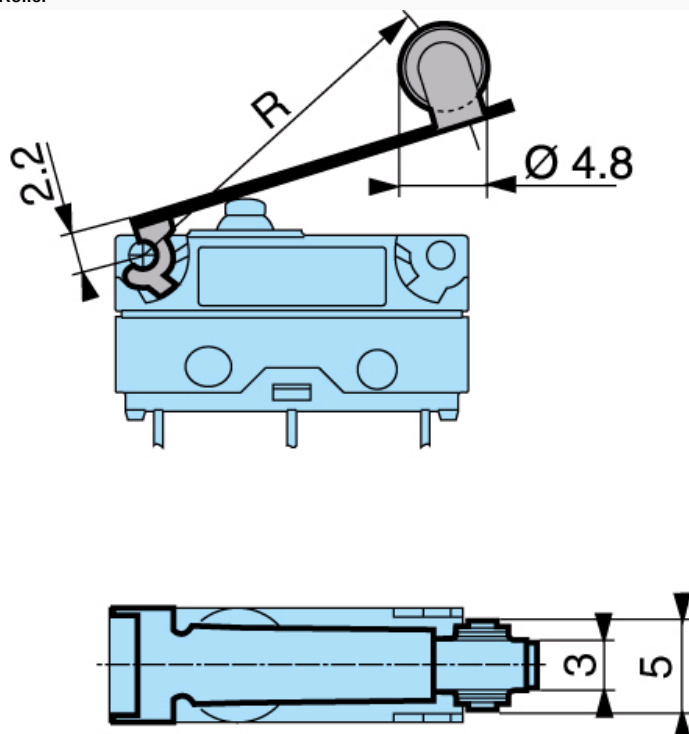


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm²

Dimensions (mm)

Actuators

170 E
Roller

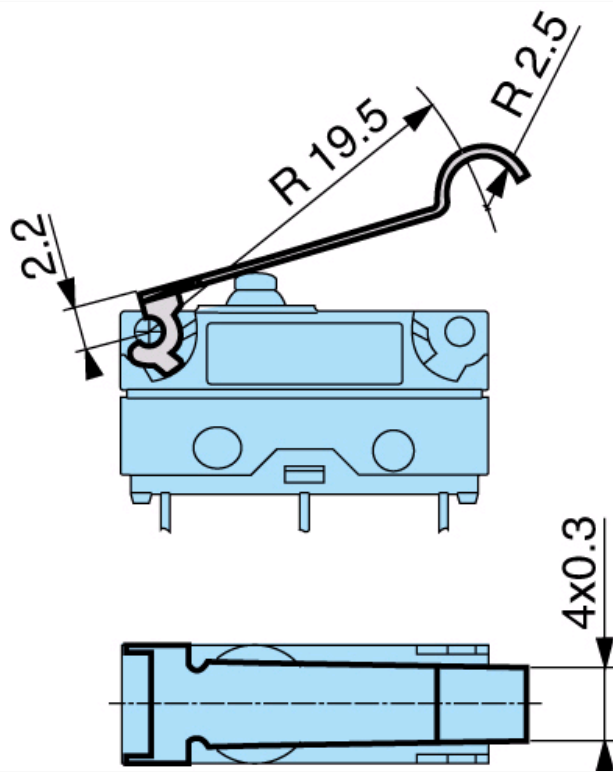


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm²

Dimensions (mm)

Actuators

170 F
Dummy roller

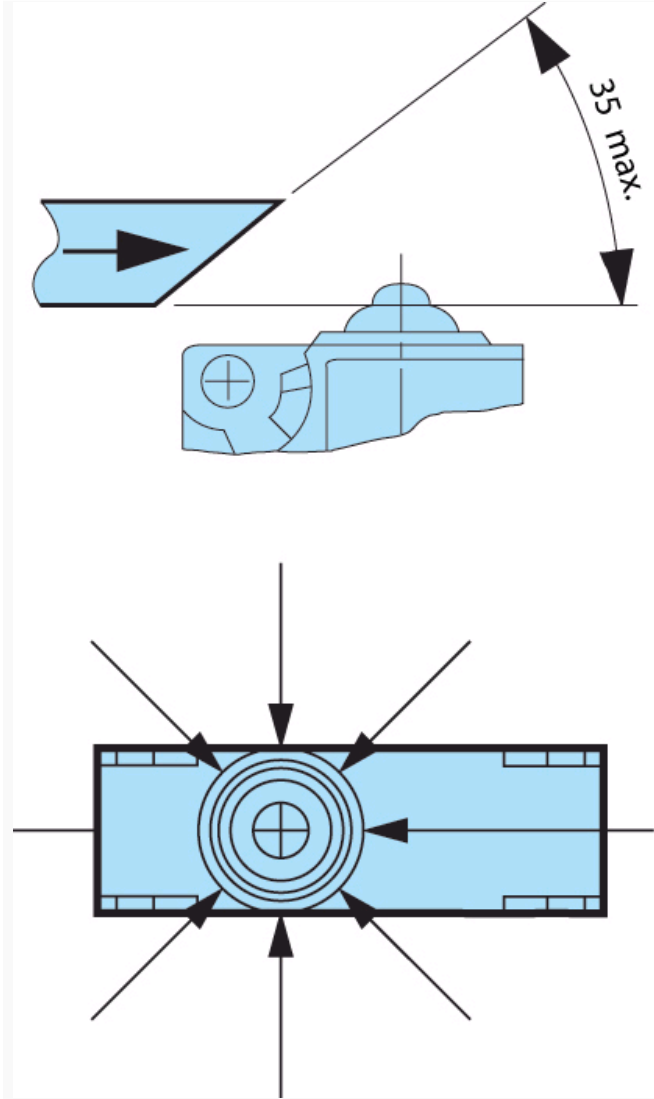


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm²

Dimensions (mm)

Actuators

Recommendations for operation from the side

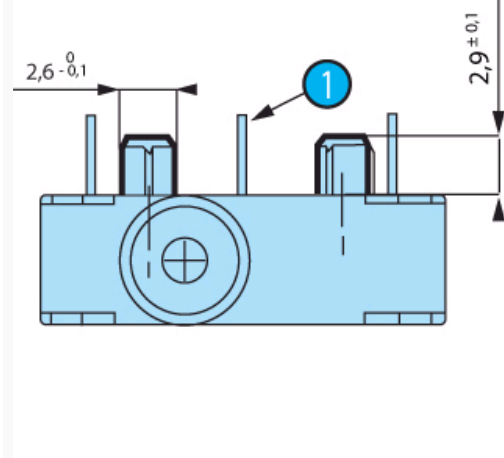


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm2

Dimensions (mm)

Mounting accessories

Fixing pins



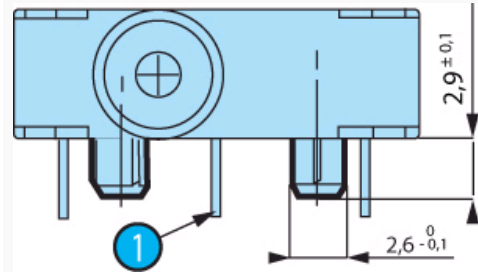
Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm2

N°	Legend
1	X2 output

Dimensions (mm)

Mounting accessories

Fixing pins

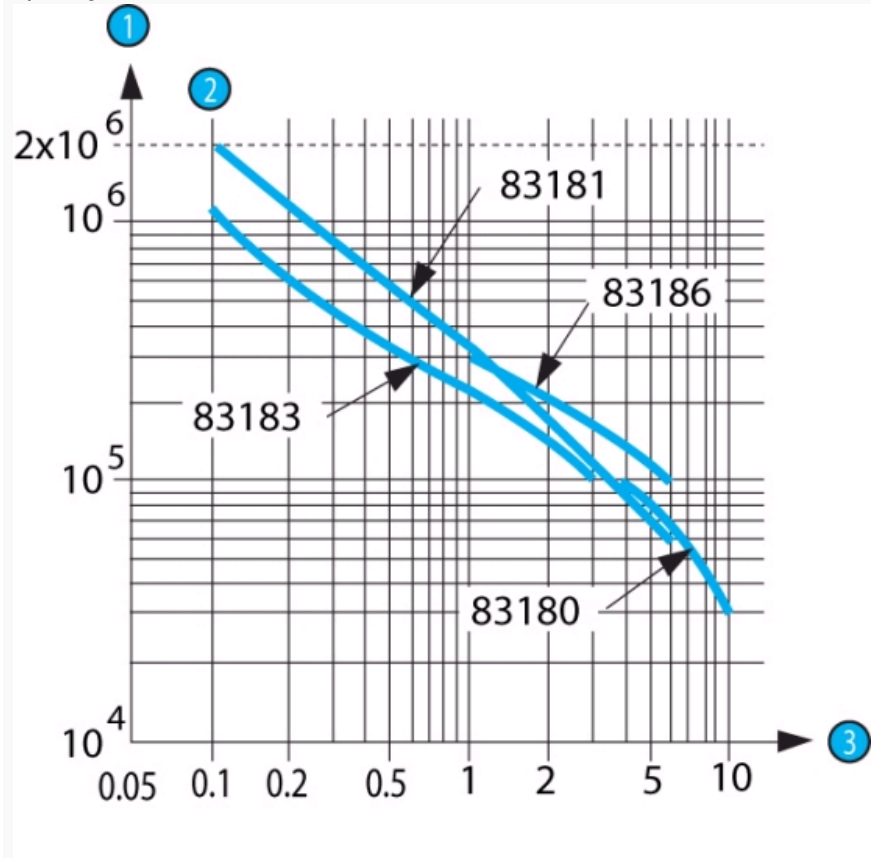


Black = Common Grey = NC Blue = NO Conductor cross-section : 83181 / 83183 / 83186 = 3 x 0.5 mm2

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

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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 ^{+1.1}	12.7 ^{+3.3} 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 ^{+1.2}			

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

Mouser Electronics

Authorized Distributor

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Crouzet:

[831800C1.0](#) [831800C1.AL](#) [831800C2.0](#) [831800CFD0.0](#) [831800CFG0.0](#) [831800CGG0.0](#) [831800CGG0.EL](#)
[831810C1.0](#) [831810C1.BL](#) [831810C1.EL](#) [831810C1.FL](#) [831810C2.0](#) [831810C2.FL](#) [831810C3.0](#) [831810C3.AL](#)
[831810C3.FL](#) [831810C4.0](#) [831810C4.BL](#) [831810C5.0](#) [831810C6.0](#) [831810C7.0](#) [831810CCG01.0](#)
[831810CCG01.EL](#) [831810CCG02.0](#) [831810CCG02.CL](#) [831810CFB0.0](#) [831810CFD0.0](#) [831810CFD0.BL](#)
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[831810CFD03.0](#) [831810CFD03.FR](#) [831810CFG0.0](#) [831810CFG0.EL](#) [831810CFG0.FL](#) [831810CFG0.FR](#)
[831810CFG01.0](#) [831810CFG01.EL](#) [831810CFG01.FR](#) [831810CFG03.0](#) [831810CFG03.FR](#) [831810CGG02.0](#)
[831810CGG02.CL](#) [831830C1.0](#) [831830C1.EL](#) [831830C2.0](#) [831830C2.DL](#) [831830C2.EL](#) [831830C2.FL](#)
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[831810C8.0](#) [831860CCG1.CL](#) [831800C7.AL](#) [831800CFB0.0](#) [831810CFD01.FR](#) [831800C3.AL](#) [831810C2.EL](#)
[831810C2.BL](#) [831860C2.FL](#) [831860C4.0](#) [83186063](#) [83181061](#)