

SUB-SUBMINIATURE MICROSWITCHES - SEALED

V5S - 8320

- › High precision flexible leaf snap-action mechanism
- › Operation without balance-point, even at extremely slow actuating speed
- › Very small size
- › Extra-long plunger stroke: 2 mm overtravel to absorb dispersions in application
- › Suitable for lateral approach from any direction with angle up to 45°
- › Excellent resistance to harsh environments - IP67/IP69 protection
- › Use from 1 mA 4 V_{DC} to 4 A 250 V_{AC}
- › Long mechanical life
- › Various terminal types and pre-wired models - Choice of flexible actuators



Main specifications

		Dual-current 83200
Function	Connections / Locating pins	
I (changeover)	X1 (PCB, straight) / none	83200003
I (changeover)	X1 (PCB, straight) / CAR (two short, rear)	83200011
I (changeover)	X1 (PCB, straight) / CAV (two short, front)	83200012
I (changeover)	X1 (PCB, straight) / LAV, LAR, 4C, 4L	●
I (changeover)	X1L (PCB, straight, long) / none, CAV, CAR, LAV, LAR, 4C, 4L	●
I (changeover)	X2 (PCB, rear) / CAR (two short, rear)	83200005
I (changeover)	X2 (PCB, rear) / LAR (two long, rear)	83200023
I (changeover)	X2 (PCB, rear) / none, CAV, LAV, 4C, 4L	●
I (changeover)	X3 (PCB, front) / CAV (two short, front)	83200006
I (changeover)	X3 (PCB, front) / LAV (two long, front)	83200024
I (changeover)	X3 (PCB, front) / none, CAR, LAR, 4C, 4L	●
I (changeover)	W2 (solder) / none	83200030
I (changeover)	W2 (solder) / LAR (two long, rear)	83200033
I (changeover)	W2 (solder) / LAV (two long, front)	83200034
I (changeover)	W2 (solder) / 4C (four, short)	83200035
I (changeover)	W2 (solder) / CAV, CAR, 4L	●
I (changeover)	W2ST (solder, no hole) / none, CAV, CAR, LAV, LAR, 4C, 4L	●
I (changeover)	FB0 (wires, bottom) / CAR (two short, rear)	83200051
I (changeover)	FB0 (wires, bottom) / 4C (four, short)	83200055
I (changeover)	FG0 (wires, left) / 4C (four, short)	83200062
I (changeover)	FG0 (wires, left) / 4L (four, long)	83200063
I (changeover)	FD0 (wires, right) / none	83200071
I (changeover)	FD0 (wires, right) / 4C (four, short)	83200069
I (changeover)	FD0 (wires, right) / 4L (four, long)	83200070
I (changeover)	FB0, FG0, FD0 / none, CAV, CAR, LAV, LAR, 4L	●
R (normally closed)	FB0, FG0, FD0 / none, CAV, CAR, LAV, LAR, 4C, 4L	● (83202)
C (normally open)	FB0, FG0, FD0 / none, CAV, CAR, LAV, LAR, 4C, 4L	● (83204)
Electrical characteristics		
Rating nominal / 250 V AC (A)		4*
Rating thermal / 250 V AC (A)		5
Mechanical characteristics		
Max. operating force (N)		1.5
Min. Release force (N)		0.2
Max. total travel force (N)		2.5
Max. Allowable overtravel force (N)		10
Max. rest position (mm)		11.1
Operating position (mm)		10.5±0.2
Max. differential travel (mm)		0.10
Min. overtravel (mm)		2
Ambient operating temperature (°C)		-40 → +90
Mechanical life (operations)		10 ⁶
Contact gap (mm)		0.3
Weight (terminal versions) (g)		0.75

Additional specifications

- Cover: PARA GF
- Base: PA66 (UL 94-V2 / GWFI 850 °C)
- Button: POM
- Membrane: silicone rubber
- Moving blade: silver-plated beryllium copper
- Contacts: gold alloy on silver alloy, crossbar
- Terminals: silver-plated brass
- Wire leads: copper, PVC insulated
- Levers: stainless steel

- Degree of protection: IP67/IP69 (mechanism and wire output)
- Protection against electric shock: button and actuators have reinforced insulation for Ui 250V / Uimp 2,5kV / pollution 2
- Recommended min actuating speed: 0.001 mm/s

- Certification marks: on request

Standard product

Product made to order



Contact us

Product adaptations

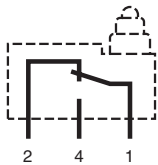


- › Special connections: SMD terminals, special leads, cables, full wiring with custom connector
- › Special levers: special shapes and lengths
- › Fully customized switching modules with integrated connector
- › Integration of resistors for specific electrical diagrams or self-diagnosis function
- › Low switching hysteresis variant: 0.06 mm max differential travel
- › High operating temperature: +125 °C
- › cURus approved versions - ENEC approval

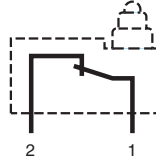
Principles

Single break snap-action switch

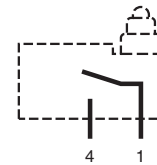
Changeover - SPDT (form C)



Normally closed - SPST-NC (form B)



Normally open - SPST-NO (form A)



Curves

Electrical life

- 250 V~ 4 A resistive > 6 000 cycles
- 14 V--- 2 A resistive 200 000 cycles
- 14 V--- 10 W lamps 100 000 cycles
- 14 V--- 0.5 A L/R = 4 ms 50 000 cycles

- 5 V--- 1 mA resistive 500 000 cycles

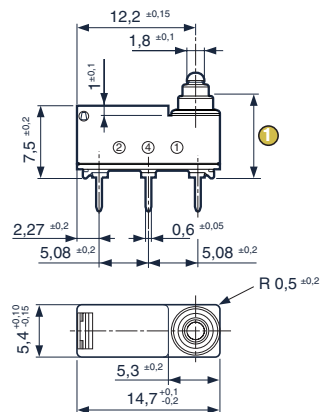
* These products are designed to operate equally well on low current (1 mA 4 V minimum recommended) or medium-current (4A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life.

Dimensions

Products

8320

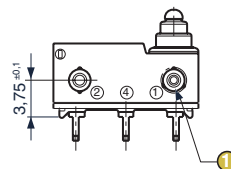
Version without locating pins



① Total travel position: max 8.5

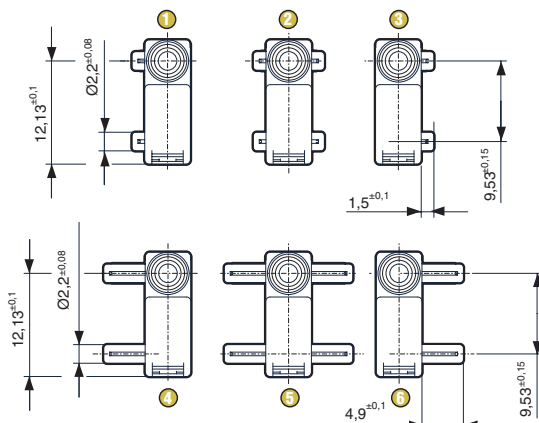
8320

Version with locating pins



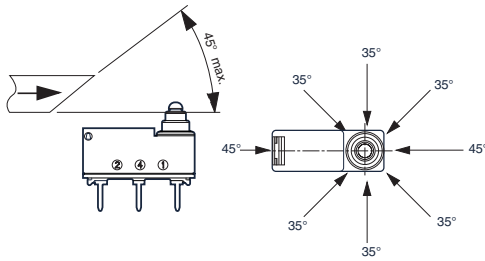
① Ø 2.6 ±0.1 on ribs

Locating pins



- ① 2 short pins on rear (CAR)
- ② 4 short pins (4C)
- ③ 2 short pins on front (CAV)
- ④ 2 long pins on rear (LAR)
- ⑤ 4 long pins (4L)
- ⑥ 2 long pins on front (LAV)

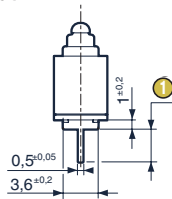
Recommendations for lateral approach



In order to reduce friction and wear, the actuating ramp shall preferably be of PA, POM, PBT or steel, and also be as smooth as possible.
As a general rule, the use of any lubricant substance is not needed nor recommended.
For particular cases, please consult us.

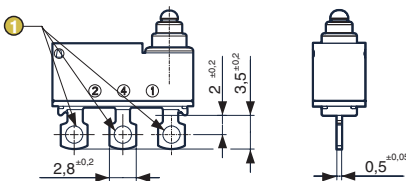
Connections

X1-X1L for printed circuit board, straight output



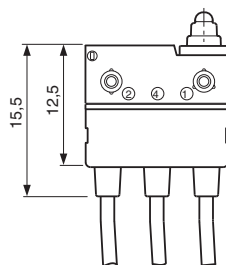
- ① X1 = 3.5 ± 0.2
X1L = 7 ± 0.2

W2 - W2ST solder



- ① With holes: W2 $\varnothing 1.8 \pm 0.1$
Without holes: W2ST

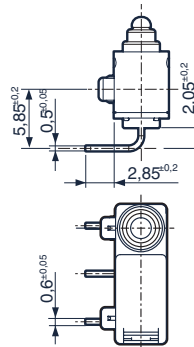
FB0 wire output on bottom



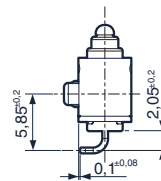
Wire characteristics

1: Black
2: Grey
4: Blue
Cross-section: 0.35 mm^2
Standard length: 500 mm
Other lengths on request
(length in meters: e.g. 1.5)

X2 for printed circuit board, rear output

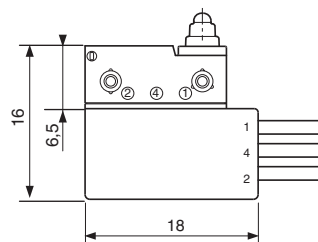


CMS2 for surface mounting, rear output

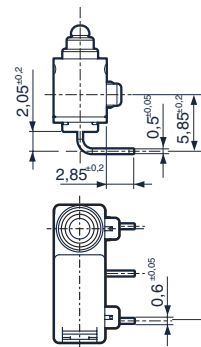


Please contact us

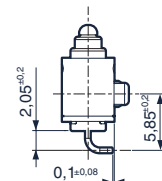
FD0 wire output on right



X3 for printed circuit board, front output

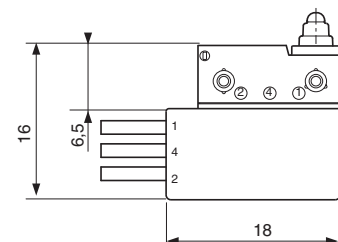


CMS3 for surface mounting, front output



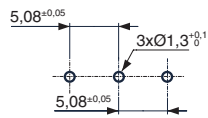
Please contact us

FG0 wire output on left

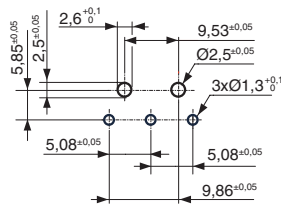


Drilling

Installation on printed circuit board X1-X1L-X2-X3

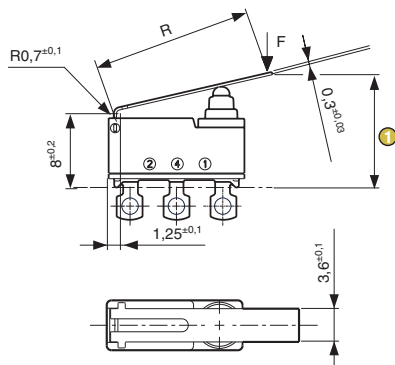


Installation on printed circuit board with locating pins



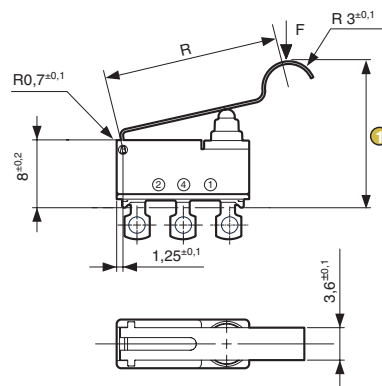
Actuators

200AF flexible flat



① Operating position

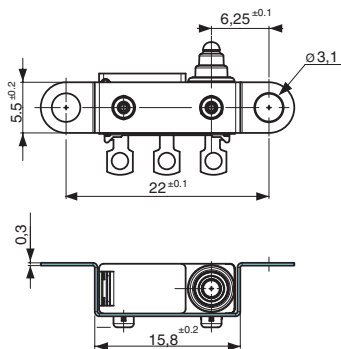
200FF flexible dummy roller



Other shapes and dimensions:
consult us

Mounting accessories

Stainless steel mounting flange



Actuators and mounting accessories

Actuators

Flexibles actuators

Flat **200AF** R15Flat **200AF** R20Dummy roller **200FF** R17

Max. operating force (N)

1.5

1.3

1.5

Min. release force (N)

0.1

0.05

0.1

Operating position (mm)

11.4 ±0.4

12.2 ±0.4

14.75 ±0.5

Actuators are factory mounted

Mounting accessories

79257491

Stainless steel mounting flange



V5S - 8320 microswitches with referenced actuators

Actuators		200AF R15
83200	X1	83200229
	X2	83200215
	W2 LAR	83200223
	FBO CAR	83200224

Installation recommendations

See "Basic technical concepts"

How to order

Use the 8 digit part numbers when they are defined

Other cases, precise: Type and Function - Connection - Locating pins - Actuator* - Adaptation* + Mounting accessories*

* if needed

Example: 83200 W2 CAV 200AF R15 + 79257491

Examples of special adaptations



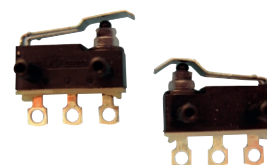
IP67 module with 45° rotary operation, maintained action, integrated connector and quick fastening



IP67 module with integrated connector and quick fastening



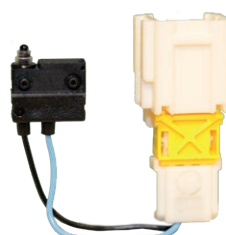
Printed circuit board assembly with connector



Special levers



"V4 size" conversion housing and wire lead or cable output



Customized wiring

Warning:

The product information contained in this catalogue is given purely as information and does not constitute a representation, warranty or any form of contractual commitment. Crouzet Automatismes SAS and its subsidiaries reserve the right to modify their products without notice. It is imperative that we should be consulted over any particular use or application of our products and it is the responsibility of the buyer to establish, particularly through all the appropriate tests, that the product is suitable for the use or application. Under no circumstances will our warranty apply, nor shall we be held responsible for any application (such as any modification, addition, deletion, use in conjunction with other electrical or electronic components, circuits or assemblies, or any other unsuitable material or substance) which has not been expressly agreed by us prior to the sale of our products.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Crouzet:

[83200030](#) [83200033](#) [83200051](#) [83200055](#) [83200062](#) [83200063](#) [83200031](#) [83200229](#) [83200215](#) [83200223](#)
[83200224](#) [83200011](#) [83200012](#) [83200015](#) [83200069](#) [83200070](#) [83200071](#) [83200212](#) [83200213](#) [83200214](#)