

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
- › Ratings 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

Function	Connections / Locating pins	Standard 83200	Low current 83201
I (changeover)	X1 (PCB, straight) / none	83200003	83201003
I (changeover)	X1 (PCB, straight) / CAV, CAR, LAV, LAR, 4C, 4L	●	●
I (changeover)	X1L (PCB, straight, long) / none	83200004	83201004
I (changeover)	X1L (PCB, straight, long) / CAV, CAR, LAV, LAR, 4C, 4L	●	●
I (changeover)	X2 (PCB, rear) / CAR (two short, rear)	83200005	83201005
I (changeover)	X2 (PCB, rear) / LAR (two long, rear)	83200023	83201023
I (changeover)	X2 (PCB, rear) / none, CAV, LAV, 4C, 4L	●	●
I (changeover)	X3 (PCB, front) / CAV (two short, front)	83200006	83201006
I (changeover)	X3 (PCB, front) / LAV (two long, front)	83200024	83201024
I (changeover)	X3 (PCB, front) / none, CAR, LAR, 4C, 4L	●	●
I (changeover)	W2 (solder) / LAV (two long, front)	83200034	83201034
I (changeover)	W2 (solder) / 4C (four, short)	83200035	83201035
I (changeover)	W2 (solder) / none, CAV, CAR, LAR, 4L	●	●
I (changeover)	W2ST (solder, no hole) / none, CAV, CAR, LAV, LAR, 4C, 4L	●	●
I (changeover)	FBO (wires, bottom) / CAR (two short, rear)	83200051	83201051
I (changeover)	FBO (wires, bottom) / 4C (four, short)	83200055	●
I (changeover)	FG0 (wires, left) / 4C (four, short)	83200062	●
I (changeover)	FG0 (wires, left) / 4L (four, long)	83200063	83201063
I (changeover)	FD0 (wires, right) / none	83200071	83201071
I (changeover)	FD0 (wires, right) / 4C (four, short)	83200069	●
I (changeover)	FD0 (wires, right) / 4L (four, long)	83200070	●
I (changeover)	FBO, FG0, FD0 / none, CAV, CAR, LAV, LAR, 4L	●	●
R (normally closed)	FBO, FG0, FD0 / none, CAV, CAR, LAV, LAR, 4C, 4L	83202*	83203*
C (normally open)	FBO, FG0, FD0 / none, CAV, CAR, LAV, LAR, 4C, 4L	83204*	83205*
Electrical characteristics			
Rating nominal / 250 V AC (A)		4	-
Operating range / 4 → 14 V AC/DC (A)		-	0.001 → 0.05
Rating thermal (A)		5	0.1
Mechanical characteristics			
Max. operating force (N)		1.5	1.5
Min. Release force (N)		0.2	0.15
Max. total travel force (N)		2.5	2.5
Max. Allowable overtravel force (N)		10	10
Max. rest position (mm)		11.1	11.1
Operating position (mm)		10.5 ^{+0,2}	10.5 ^{+0,2}
Max. differential travel (mm)		0.15	0.2
Min. overtravel (mm)		2	2
Ambient operating temperature (°C)		-40 → +90	-40 → +90
Mechanical life (operations)		10 ⁶	10 ⁶
Contact gap (mm)		0.3	0.6
Weight (terminal versions) (g)		0.75	0.75

* Please contact us

Additional specifications

- Cover: PARA GF
- Base: PA66 GF (UL 94-V0 / GWFI 960 °C)
- Button: POM
- Membrane: silicone rubber
- Moving blade: silver-plated beryllium copper
- Contacts: silver alloy
- 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 U_i 250V / U_{imp} 2,5kV / pollution 2
- Recommended min actuating speed: 0.001 mm/s
- Certification marks:  us on request /  EAC

Standard product

Product made to order



Contact us

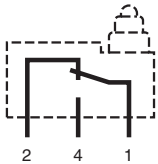
Product adaptations



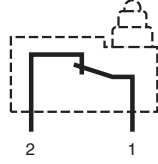
- › Special connections: SMD terminals, special leads, cables, full wiring with custom connector
- › Special levers: special shapes and lengths
- › Fully customized switching modules with integrated connector
- › Integration of resistors for specific electrical diagrams or self-diagnosis function
- › Low switching hysteresis variant: 0.06 mm max differential travel
- › Dual-current version with gold plated contacts for use from 1mA to 4A
- › High operating temperature: +125 °C
- › cURus approved versions - ENEC approval

Principles

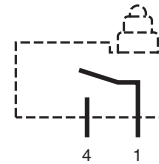
Single break snap-action switch
Changeover - SPDT (form C)



Normally closed - SPST-NC (form B)



Normally open - SPST-NO (form A)



Curves

Electrical life

Standard 83200

- 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

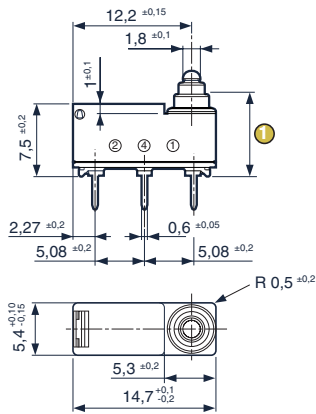
Low-current 83201

- 5 V~ 1 mA resistive 1.000.000 cycles

Dimensions

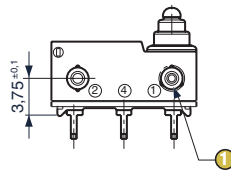
Products

8320
Version without locating pins



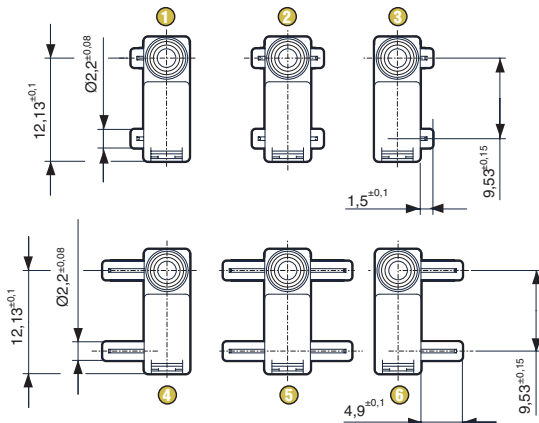
① Total travel position: max 8.5

8320
Version with locating pins



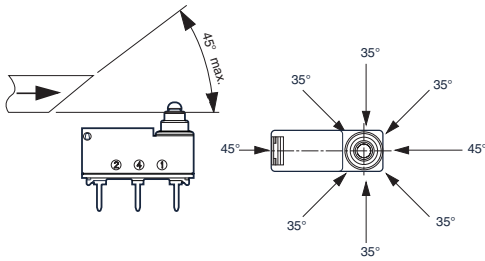
① Ø 2.6 ±0.1 on ribs

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)

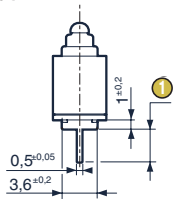
Recommendations for lateral approach



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.

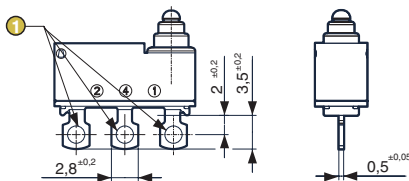
Connections

X1-X1L for printed circuit board, straight output



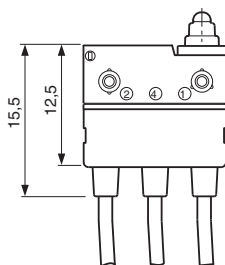
- ① X1 = 3.5 ± 0.2
X1L = 7 ± 0.2

W2 - W2ST solder



- ① With holes: W2 Ø 1.8 ± 0.1
Without holes: W2ST

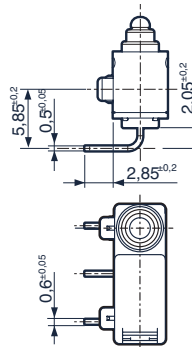
FB0 wire output on bottom



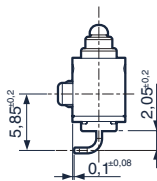
Wire characteristics

- 1: Black
- 2: Grey
- 4: Blue
- Cross-section: 0.35 mm²
- Standard length: 500 mm
- Other lengths on request (length in meters: e.g. 1.5)

X2 for printed circuit board, rear output

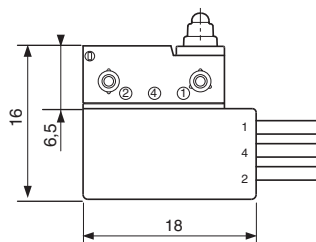


CMS2 for surface mounting, rear output

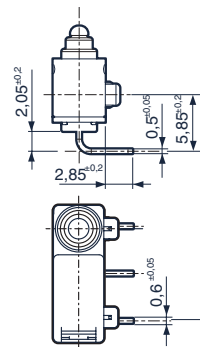


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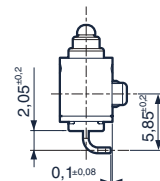
FD0 wire output on right



X3 for printed circuit board, front output

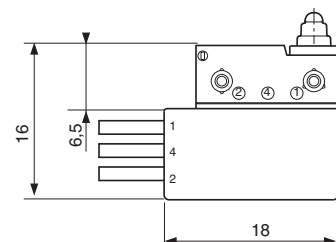


CMS3 for surface mounting, front output



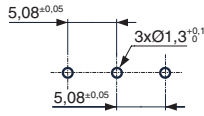
Please contact us

FG0 wire output on left

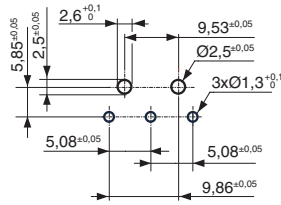


Drilling

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

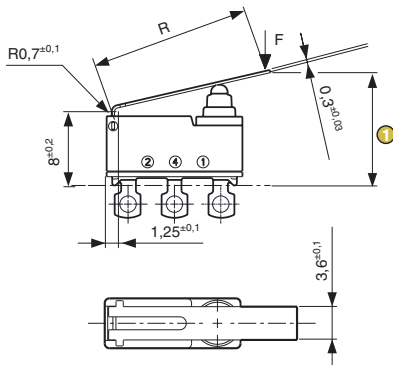


Installation on printed circuit board with locating pins



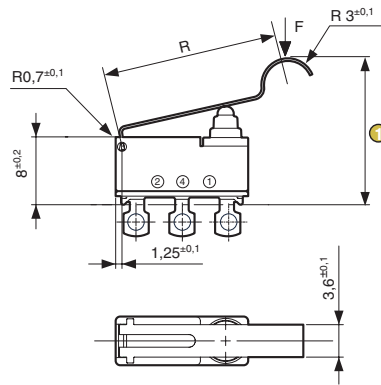
Actuators

200AF flexible flat lever



① Operating position

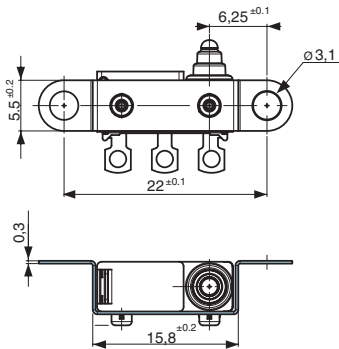
200FF flexible dummy roller lever



Other shapes and dimensions:
consult us




Mounting accessories

Stainless steel mounting flange



Actuators and mounting accessories

Actuators

Flexibles actuators	Flat 200AF R15	Flat 200AF R20	Dummy 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



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



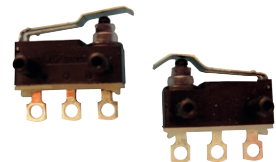
IP67 module with 45° rotary operation, maintained action, integrated connector and quick fastening



IP67 module with integrated connector and quick fastening



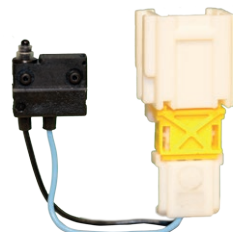
Printed circuit board assembly with connector



Special levers



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



Customized wiring

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