

# MINIATURE MICROSWITCHES - SEALED, COMPACT

## V3DS - 8329

- › C-spring snap-action mechanism with wiping contacts
- › IP67 protection
- › Broad range of operating forces from 1 N to 4.5 N
- › Quick-connect terminals or wire lead output
- › Ratings from 1 mA 4 V<sub>DC</sub> to 10 A 250 V<sub>AC</sub>
- › Choice of actuators on 3 possible fixing positions (pre-assembled or retrofittable)
- › ENEC, cURus and CCC approved



### Main specifications

	Standard 83293	High current 83291	High current High force 83290	Low force 83294	Dual-current 83298	Dual-current Low force 83299
<b>Function</b>	<b>Connections</b>					
I (changeover)	W3 (QC 6.3 x 0.8)	83293001	83291001	83290001	83294001	83298001
I (changeover)	F0 (wires)	83293009	83291009	83290009	83294009	83298009
R (normally closed)	W3 (QC 6.3 x 0.8)	●	●	●	●	●
R (normally closed)	F0 (wires)	83293609	83291609	83290609	83294609	83298609
C (normally open)	W3 (QC 6.3 x 0.8)	●	●	●	●	●
C (normally open)	F0 (wires)	83293809	83291809	83290809	83294809	83298809
<b>Electrical characteristics</b>						
Rating nominal / 250 V AC (A)	5	10	10	3	3*	3*
Rating thermal / 250 V AC (A)	7.5	10	10	7.5	6	6
Rating UL / 125/250 VAC (A)	6(1)	10(2)	10(2)	6(1)	6(1) - 0.1(0.04)	6(1) - 0.1(0.04)
<b>Mechanical characteristics</b>						
Maximum operating force (N)	2	2.5	4.5	1	2	1
Min. Release force (N)	0.2	0.5	0.8	0.1	0.2	0.1
Max. Allowable overtravel force (N)	20	20	20	20	20	20
Rest position max. (mm)	16.2	16.2	16.2	16.2	16.2	16.2
Operating position (mm)	14.7 ±0.5	14.7 ±0.5	14.7 ±0.5	14.7 ±0.5	14.7 ±0.5	14.7 ±0.5
Maximum differential travel (mm)	0.5	0.5	0.5	0.5	0.5	0.5
Min. overtravel (mm)	1	1	1	1	1	1
Ambient operating temperature (°C)	-40 → +85	-40 → +85	-40 → +85	-40 → +85	-40 → +85	-40 → +85
Mechanical life for 2/3 OT (operations)	10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>6</sup>
Contact gap (mm)	1	1	1	1	1	1
Weight, terminal versions (g)	9	9	9	9	9	9
Weight, wire versions (g)	39	39	39	39	39	39

### Additional specifications

- Case: PBT GF (UL 94-V0 / GWFI 850 °C)
- Button: PA66 GF
- Membrane: silicone rubber
- Contacts: silver alloy, gold-plated silver alloy (dual-current)
- Terminals: brass
- Wire leads: tinned copper, XLPE insulated
- Levers: stainless steel
- Degree of protection: IP67 (mechanism and wire output)
- Recommended min actuating speed: 83290: 0.1 mm/s  
83291: 0.3 mm/s  
83293/83298: 1 mm/s  
83294/83299: 3 mm/s
- Certification marks:

### Product adaptations

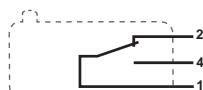


- › Special levers: special shapes and lengths, pinned actuators, ....
- › Special leads
- › Special connections: 4.8 x 0.5 and 4.8 x 0.8 quick-connect, ...
- › Cable output

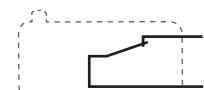
### Principles

#### Single break snap-action switch

##### Changeover - SPDT (form C)



##### Normally closed - SPST-NC (form B)



##### Normally open - SPST-NO (form A)



## Curves

### Electrical life

#### 83290 - 83291

- 250 V $\sim$  10 A resistive 50 000 cycles

#### 83293

- 250 V $\sim$  5 A resistive 100 000 cycles

#### 83294

- 250 V $\sim$  3A resistive 100 000 cycles

#### 83298 - 83299

- 5 V $\sim$  1 mA resistive 200 000 cycles

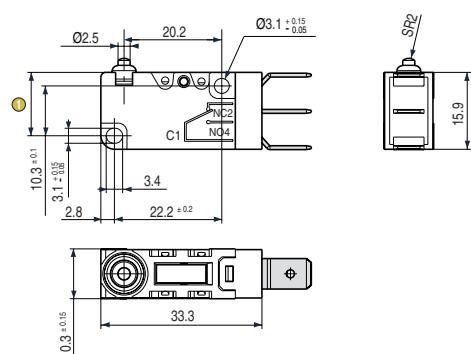
- 250 V $\sim$  3A resistive 100 000 cycles

\* Models 83298 and 83299 are designed to operate equally well on low-current (1 mA 4 V minimum recommended) or medium-current circuits (3 A maximum recommended) circuits. However, a given product should only be used to switch one type of circuit during its working life.

## Dimensions

### Product

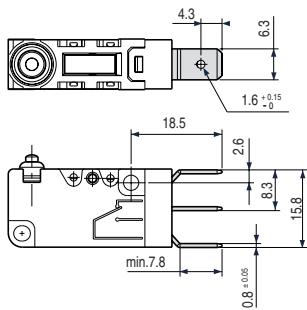
#### 8329



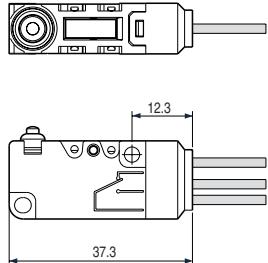
① Total travel position = 13.2 max

## Connections

### W3 quick-connect 6.3 x 0.8



### F0 wire output



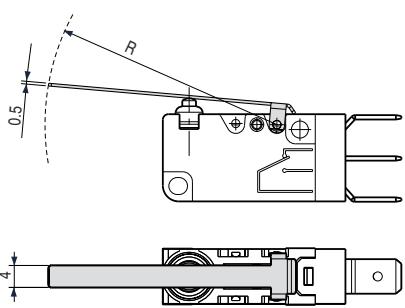
Other connections:  
consult us

### Wire characteristics

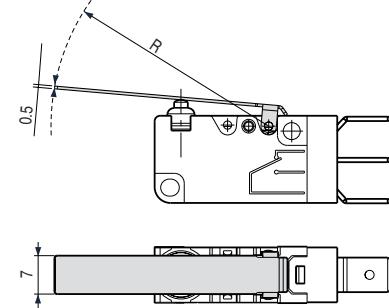
1: Black (common)  
2: Red (NC)  
4: Brown (NO)  
Cross-section: 0.8 mm<sup>2</sup>  
Standard length: 300 mm  
Other lengths on request  
(length in meters: e.g. 1.5)

## Actuators

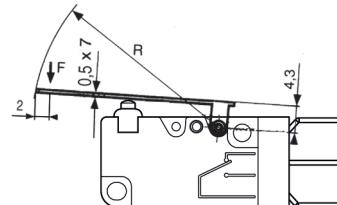
### 290A4 flat

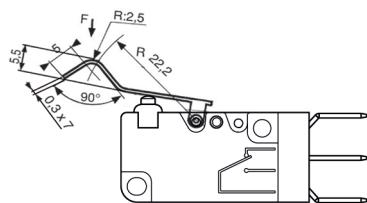
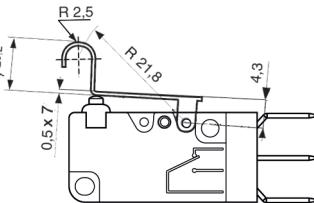
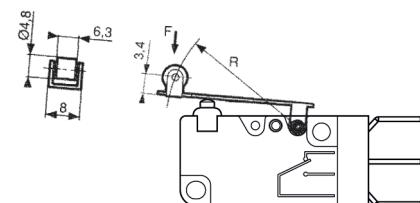


### 290A7 flat

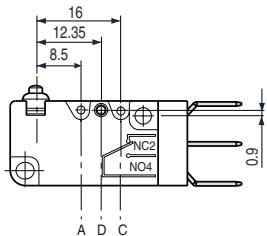


### 161A flat



**161F dummy roller****161G dummy roller****161E roller**

Other shapes and dimensions: consult us

**Actuator mounting positions**

Positions A and C are standard

Position D is for factory mounted pinned actuators: consult us.

**Actuators and mounting accessories****Part numbers for standard actuators**

70771217

70771218

Actuators

Flat 290A4  
R42.3Flat 290A7  
R39.5**Fixing position**

A

C

A

C

Coefficient for force \*

4.5

2.5

4.5

2.5

Rest position - max mm

21.5

19

22

18.7

Operating position mm

14.7<sup>±2.5</sup>15.2<sup>±1.5</sup>14.8<sup>±2.5</sup>15.2<sup>±1.5</sup>

Total travel position - max mm

10.6

12.6

10.3

12.7

Differential travel - max mm

2.5

1.5

2.5

1.5

**Part numbers for standard actuators**

70507524

70507529

70507528

79218651

Actuators

Flat 161A  
R25.4Roller 161E  
R24.1Dummy roller 161F  
R22.2Dummy roller 161G  
R21.8**Fixing position**

A

C

A

C

A

C

A

C

Coefficient for force \*

3

1.5

3

1.5

2.5

-

2.5

1.3

Rest position - max mm

20

19

25

24.5

25

-

25.5

25

Operating position mm

14.2<sup>±1.5</sup>15<sup>±0.9</sup>20<sup>±1.5</sup>20.5<sup>±1</sup>20.2<sup>±1.5</sup>

-

21.5<sup>±1.3</sup>22.2<sup>±1</sup>

Total travel position - max mm

12

13.8

18

19.2

18.5

-

20

21

Differential travel - max mm

1.5

1

1.5

1

1.5

-

1.3

1

\* To calculate force on actuator, divide the switch force by the coefficient given in the table.

Example: 83291 with lever 290A7 R39.5 Pos C (coeff. 2.5)

Max Operating force: 2.5 N / 2.5 = 1 N

Min Release force: 0.5 N / 2.5 = 0.2 N

Except where otherwise indicated, levers are supplied unmounted. For factory mounting, specify fixing position A or C.

## Installation recommendations

See "Basic technical concepts"

## How to order

Use 8 digit part numbers when they are defined

Other cases, precise: Type of microswitch - Function - Connection - Actuator\* - Fixing position\*

\* if needed

Example: 83293 I W3 290A7 R39.5 C

### Warning:

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