

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 4V_{DC} to 10 A 250V_{AC}
- › Choice of actuators on 3 possible fixing positions (pre-assembled or retrofittable)
- › 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 |
|---|--------------------|-------------------|-----------------------|-------------------------------------|--------------------|-----------------------|------------------------------------|
| Function | Connections | | | | | | |
| I (changeover) | W3 (QC 6.3 x 0.8) | 83293001 | 83291001 | 83290001 | 83294001 | 83298001 | 83299001 |
| I (changeover) | F0 (wires) | 83293009 | 83291009 | 83290009 | 83294009 | 83298009 | 83299009 |
| R (normally closed) | W3 (QC 6.3 x 0.8) | ● | ● | ● | ● | ● | ● |
| R (normally closed) | F0 (wires) | 83293609 | 83291609 | 83290609 | 83294609 | 83298609 | 83299609 |
| C (normally open) | W3 (QC 6.3 x 0.8) | ● | ● | ● | ● | ● | ● |
| C (normally open) | F0 (wires) | 83293809 | 83291809 | 83290809 | 83294809 | 83298809 | 83299809 |
| Electrical characteristics | | | | | | | |
| 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) |
| Mechanical characteristics | | | | | | | |
| 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 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁶ |
| 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

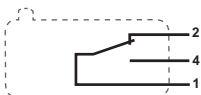


- › Special levers: special shapes and lengths, pinned actuators, ...
- › Special leads
- › Special connections: 4.8 x 0.5 and 4.8 x 0.8 quick-connect, ...
- › Cable output
- › ENEC approval

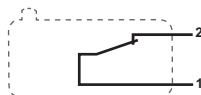
Principles

Single break snap-action switch

Changeover - SPDT (form C)



Normally closed - SPST-NC (form B)



Normally open - SPST-NO (form A)



Standard product

Product made to order

Contact us

Curves

Electrical life

83290 - 83291

- 250 V~ 10 A resistive 50 000 cycles

83293

- 250 V~ 5 A resistive 100 000 cycles

83294

- 250 V~ 3A resistive 100 000 cycles

83298 - 83299

- 5 V~ 1 mA resistive 200 000 cycles

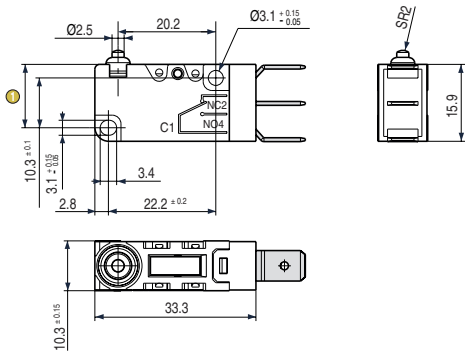
- 250 V~ 3A resistive 100 000 cycles

* 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

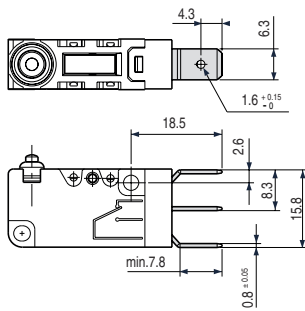
8329



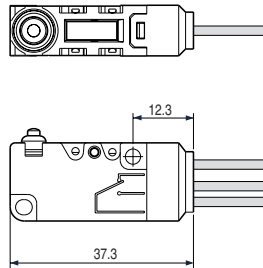
① Total travel position = 13.2 max

Connections

W3 quick-connect 6.3 x 0.8



F0 wire output



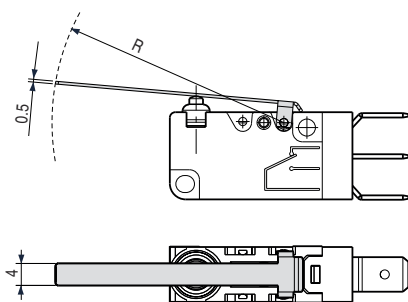
Wire characteristics

- 1: Black (common)
- 2: Red (NC)
- 4: Brown (NO)
- Cross-section: 0.8 mm²
- Standard length: 300 mm
- Other lengths on request (length in meters: e.g. 1.5)

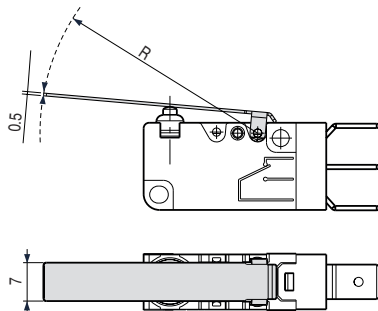
Other connections: consult us

Actuators

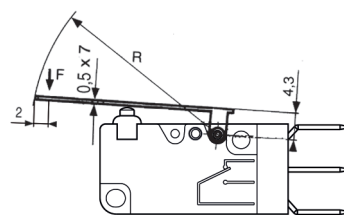
290A4 flat



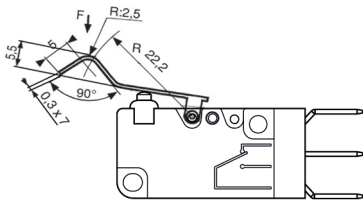
290A7 flat



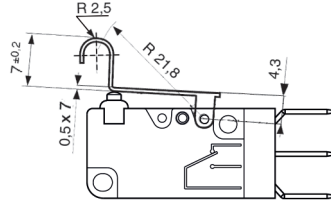
161A flat



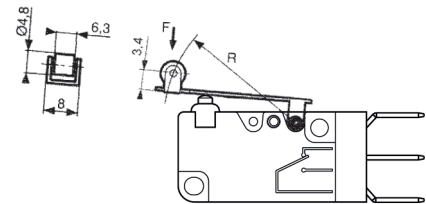
161F dummy roller



161G dummy roller

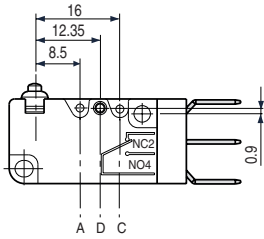


161E roller



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
R42.3

Flat 290A7
R39.5



| | 70771217 | | 70771218 | |
|-----------------------------|----------|----------|----------|----------|
| | A | C | A | C |
| Fixing position | A | C | A | C |
| Coefficient for force * | 4.5 | 2.5 | 4.5 | 2.5 |
| Rest position - max | mm | 21.5 | 22 | 18.7 |
| Operating position | mm | 14.7±2.5 | 14.8±2.5 | 15.2±1.5 |
| Total travel position - max | mm | 10.6 | 10.3 | 12.7 |
| Differential travel - max | mm | 2.5 | 1.5 | 2.5 |

Part numbers for standard actuators

70507524

70507529

70507528

79218651

Actuators

Flat 161A
R25.4

Roller 161E
R24.1

Dummy roller 161F
R22.2

Dummy roller 161G
R21.8



| | 70507524 | | 70507529 | | 70507528 | | 79218651 | |
|-----------------------------|----------|----------|----------|--------|----------|---|----------|--------|
| | A | C | A | C | A | C | A | C |
| 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 | 25 | 24.5 | 25 | - | 25.5 | 25 |
| Operating position | mm | 14.2±1.5 | 20±1.5 | 20.5±1 | 20.2±1.5 | - | 21.5±1.3 | 22.2±1 |
| Total travel position - max | mm | 12 | 18 | 19.2 | 18.5 | - | 20 | 21 |
| Differential travel - max | mm | 1.5 | 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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