

# MICROSWITCHES - SEALED, LOW-PROFILE RUBBER HOUSING

## 83123

- › Flexible leaf snap-action mechanism
- › Flat pack/low height housing for easy integration in tight spaces
- › Nitrile housing for indoor industrial use: oil and hydrocarbon resistant
- › Silicone housing for outdoor locations: low temperature and UV resistant
- › Excellent resistance to harsh environments - IP66/IP67/IP69 protection
- › Operating temperature from -40 °C to +85 °C
- › Max rating 10 A 250 V~
- › Cable output (optional):  
contact element to be wired)
- › Long mechanical life



### Main specifications

|                                     |                    | Standard<br>83123   | Low temperature<br>83123 SIL | Domed button<br>83123 BOM | Domed button<br>Low temperature<br>83123 BOM SIL |
|-------------------------------------|--------------------|---------------------|------------------------------|---------------------------|--|
| <b>Function</b>                     | <b>Connections</b> |                     |                              |                           |  |
| I (changeover)                      | 0.5 (cable, 0.5 m) | 83123018            | 83123091                     | 83123074                  | ●  |
| I (changeover)                      | 1.0 (cable, 1 m)   | 83123015            | ●                            | 83123101                  | 83123066   |
| I (changeover)                      | 1.5 (cable, 1.5 m) | 83123013            | ●                            | 83123108                  | ●  |
| I (changeover)                      | 2.0 (cable, 2 m)   | 83123005            | ●                            | ●                         | ●  |
| I (changeover)                      | 2.2 (cable, 2.2 m) | 83123024            | ●                            | 83123107                  | ●  |
| I (changeover)                      | 3.0 (cable, 3 m)   | 83123081            | ●                            | ●                         | ●  |
| R (normally closed)                 | 0.5 (cable, 0.5 m) | 83123041            | ●                            | ●                         | ●  |
| C (normally open)                   | 0.5 (cable, 0.5 m) | 83123060            | ●                            | ●                         | ●  |
| C (normally open)                   | 2.1 (cable, 2.1 m) | 83123099            | ●                            | ●                         | ●  |
| <b>Electrical characteristics</b>   |                    |                     |                              |                           |  |
| Rating nominal / 250 V AC (A)       |                    | 5                   | 5                            | 5                         | 5  |
| Rating thermal / 250 V AC (A)       |                    | 12                  | 12                           | 12                        | 12   |
| <b>Mechanical characteristics</b>   |                    |                     |                              |                           |  |
| Max. Operating force (N)*           |                    | 6                   | 6                            | 12                        | 12   |
| Min. Release force (N)*             |                    | 1.5                 | 1.5                          | 1.5                       | 1.5  |
| Max. Total travel force (N)*        |                    | 8                   | 8                            | 15                        | 15   |
| Max. Allowable overtravel force (N) |                    | 30                  | 30                           | 30                        | 30   |
| Operating position (mm)*            |                    | 11.4±0.4            | 11.4±0.4                     | 16.5±0.5                  | 16.5±0.5   |
| Max. Differential travel (mm)*      |                    | 0.2                 | 0.2                          | 0.4                       | 0.4  |
| Min. Overtravel (mm)*               |                    | 0.3                 | 0.3                          | 0.2                       | 0.2  |
| Ambient operating temperature (°C)  |                    | -5 → +85            | -40 → +85                    | -5 → +85                  | -40 → +85  |
| Mechanical life (operations)        |                    | 2 x 10 <sup>6</sup> | 2 x 10 <sup>6</sup>          | 10 <sup>6</sup>           | 10 <sup>6</sup>                                  |
| Contact gap (mm)                    |                    | 0.5                 | 0.5                          | 0.5                       | 0.5  |
| Weight, 0.5 m cable models (g)      |                    | 45                  | 45                           | 50                        | 50   |

\*measured with a 5 mm diameter flat end cylinder centered on 12 mm diameter button

### Additional specifications

- Housing (with integral button): nitrile rubber, black (83123; 83123 BOM)  
silicone rubber, brown or brown/black (83123 SIL; 83123 BOM SIL)
- Mounting bracket: stainless steel
- Internal case: plastic (83123; 83123 SIL)  
metal (83123 BOM; 83123 BOM SIL)
- Moving blade: beryllium copper
- Contacts: silver alloy
- Cable: copper, PVC insulated, H05VV-F
- Degree of protection: IP66/IP67/IP69
- Recommended min actuating speed: 0.03 mm/s
- Protection against electric shock: Class I (for Class II variants please consult see also "installation recommendations")
- Conformity / Certifications:

### Product adaptations



- › Special cables: silicone, neoprene, ...  
length and stripping on demand  
reduced outer diameter
- › Full wiring with custom connector
- › Contact element to be wired: provided with solder terminals, supplied with or without rubber housing
- › Models supplied without stainless steel bracket for minimal footprint and optimized integration
- › Stainless steel bracket with Ø 4mm mounting holes
- › Telescopic plunger with long overtravel and adjustable fixing by threaded barrel (see 83731/83732/83733)
- › Class II variants with double insulation

Standard product

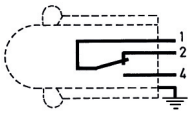
Product made to order



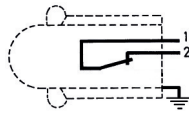
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## Principles

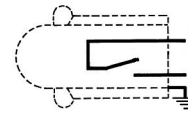
### Single break snap-action switch Changeover - SPDT (form C)



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

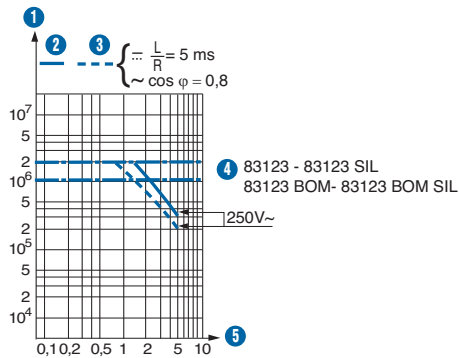


### Normally open - SPST-NO (form A)



## Curves

### Operating curve



- 1 Number of cycles
- 2 Resistive circuit
- 3 Inductive circuit
- 4 Mechanical life limit
- 5 Current in Amps

### Making & breaking capacities IEC/EN 60947-5-1 (6000 cycles)

|                              |              |
|------------------------------|--------------|
| AC-12 (resistive load)       | 10 A 24 V~   |
|                              | 10 A 250 V~  |
| AC-15 (electromagnetic load) | 4 A 24 V~    |
|                              | 2.5 A 250 V~ |
| DC-12 (resistive load)       | 10 A 24 V~   |
| DC-13 (electromagnetic load) | 3 A 24 V~    |

### Electrical durability

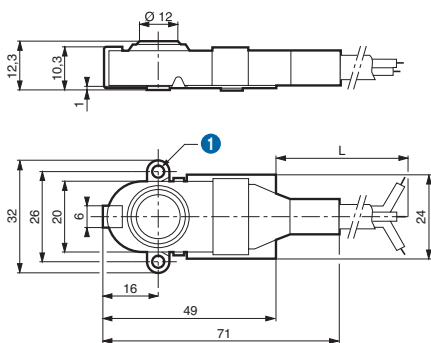
|                              |                            |
|------------------------------|----------------------------|
| AC-15 (electromagnetic load) | 1 A 24 V~ > 500 000 cycles |
|------------------------------|----------------------------|

For other ratings please consult us

## Dimensions

### Products and Connections

#### 83123 - 83123 SIL

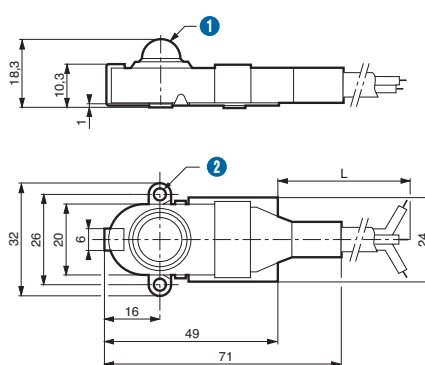


- 1 2 holes Ø 3.2

#### Cable characteristics :

1 (C) = black ; 2 (NC) = brown ; 4 (NO) = grey  
H05VV-F 3 x 0.75 mm<sup>2</sup>  
Outer diameter: max 7.6 mm  
Standard lengths: see table, page 1  
Other lengths on request  
(length in meters: e.g. 3.5)

#### 83123 BOM - 83123 BOM SIL



- 1 R6 spherical
- 2 2 holes Ø 3.2

## Installation recommendations

See "Basic technical concepts"

**Operation:** direct manual operation of "BOM" versions (having live metal internal case) is not permitted above 48 V.

**Connection:** the 83123 cable is primarily intended for the internal wiring of the equipment in which it is integrated. When this cable emerges from the equipment and becomes accessible, appropriate retention shall be provided. Torsion and/or bending stress must be avoided at cable entry. Any axial pulling force on cable shall not exceed 60 N.

**Earthing:** when required, one of the two fixing holes must be used as protective earth terminal.

## How to order

Use the 8 digit part numbers when they are defined

Other cases, precise: Type of microswitch - Function - Connection - Adaptation\*

\* if needed

Example: 83123 SIL I 1.5

## Examples of special adaptations



Model supplied without stainless steel bracket for minimal footprint and optimized integration



Contact element to be wired: provided with solder terminals and a two-part rubber housing



Bare contact element with plastic case (without rubber housing): 83123069



Bare contact element with metal case (without rubber housing): 83123070  
Please note: metal case and button are live parts !



Angle mounting bracket and flexible lever for long overtravel.



Telescopic plunger with up to 5 mm overtravel and adjustable fixing by threaded barrel: see 83731/83732/83733

### Warning:

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