

# G3 Hermetically sealed Microswitches



## Application

Microswitch for harsh environment: humidity, corrosion, shocks and vibrations, temperature requirements...

- Operating temperature: -55 °C ... +150 °C.
- Rated breaking capacity: from few mA up to 5 A (depending on voltage and electrical load type).
- Mechanical life: 200 000 cycles.

## Description

Sensitive, encapsulated snap-action switch.

- Stainless steel casing.
  - Inert gas filled switching chamber.
  - Gold plated silver contacts.
  - Mounting holes for M2 screws.
  - Terminals:
    - solder terminals,
    - 0.38 mm<sup>2</sup> (AWG 22) leadwires<sup>(1)</sup>, FEP insulation, axial or side outputs. (2 options in this case)
- (1) Compliant to AIR 4524 specification ; NF L 52-125A Category B of 1971 - lightweight cables. Interchangeability: AICMA No 5116 recommendation of February 1961

## Approvals and Compliance to Standards

French Air Ministry Approval as per letter 44.047/STPA/CIN.1/6 dated 7 October 1983.

Approval according to standards: **AIR 8459, NF C 93-415.**

AIR equipment sheets No: 6.552.206.

Main compliance or performance equivalences with **MIL-PRF-8805** standard requirements.

## Environmental characteristics

( For other test results, please contact us )

<b>Salt spray resistance</b>	96 h
<b>Humidity</b>	93% relative humidity, +40°C duration 1000h
<b>Mechanical shocks resistance</b>	100 g - duration 6 ms (pulse shape = 1/2 sine) 18 shocks (3/direction, both of 3 orthogonal axis)
<b>Sinusoidal vibrations resistance</b>	10 _ 2000 Hz, 50 g in each of 3 orthogonal axis
<b>Random vibrations</b>	10 _ 2000 Hz, 0.30 g <sup>2</sup> / Hz in each of 3 orthogonal axis
<b>Operating temperature</b>	-55°C +150°C

## Mechanical characteristics

Characteristics according to the actuating point (arrow) indicated on dimension drawings.

Hermetically sealed Microswitches		G3A1...	G3L11...	G3BS...	G3P30...
<b>Max. operating force</b>	<b>N</b>	10	15	12	12
<b>Min. release force</b>	<b>N</b>	1.5	2.0	1.5	1.5
<b>Pretravel</b>	<b>mm</b>	0.12 ... 0.25	0.6 max.	0.12 ... 0.50	0.12 ... 0.50
<b>Max. differential movement</b>	<b>mm</b>	0.05	0.08	0.05	0.05
<b>Min. overtravel (1)</b>	<b>mm</b>	0.08	0.40	3.0	3.0
<b>Max. full overtravel authorised force</b>	<b>N</b>	25	25	60	60

## Electrical characteristics

Ratings (electrical load on one throw only)		30 ... 48 V d.c.	6 V d.c.	220 V a.c. - 50 Hz
– resistive load	<b>A</b>	5 A	10 mA	2 A
– inductive load	<b>A</b>	1.5 A (L/R ≤ 5 ms)	–	1 A (Cos φ ≥ 0.5)
<b>Electrical service life</b>	<b>cycles</b>	200 000	200 000	100 000
		U = 30 V d.c. for "AIR" approval	out of "AIR" approval	out of "AIR" approval
<b>Min. switched current</b>	<b>mA</b>	5	5	5
<b>Changeover time</b>	<b>ms</b>	≤ 10	≤ 10	≤ 10
<b>Contact resistance</b>	<b>mΩ</b>	≤ 25 mΩ under 6 V d.c. – 100 mA according to MIL-PRF-8805 (As new, wires or cable not included)		
<b>Dielectric strength</b> (50 Hz - 1 mn)				
– between terminals	<b>V a.c.</b>	500		
– between all terminals and earth (ground)	<b>V a.c.</b>	1500		
<b>Insulation resistance</b>	<b>MΩ</b>	≥ 100 MΩ sous 500 V d.c. (at 23 °C with < 80 % relative humidity)		

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**Specific Products** - Contact us for more information ; data sheet on request.

- **G3A1SH** Microswitch for operating temperatures up to +250 °C.

## Ordering Details

Standard leadwire length = 0.5 m ; other length on request.

For wired terminals side outputs "FL" and "FLL", specify, if necessary, required leadwires orientation. See data sheets.

Terminals	P/N	Weight (1 piece) kg
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### Microswitch with pin actuator, without mounting interface

Solder terminals	<b>G3A1S</b>	0.005
Wired terminals	<b>G3A1F</b>	0.017
Wired terminals side outputs (standard potting)	<b>G3A1FL</b>	0.017
Wired terminals side outputs (longest potting)	<b>G3A1FLL</b>	0.018



G3A1S

### Microswitch with pin actuator, side flange mounting

Solder terminals	<b>G3A1CS</b>	0.006
Wired terminals	<b>G3A1CF</b>	0.018
Wired terminals side outputs (standard potting)	<b>G3A1CFL</b>	0.018
Wired terminals side outputs (longest potting)	<b>G3A1CFLL</b>	0.019

### Microswitch with flexible lever actuator, side flange mounting

Solder terminals	<b>G3L11CS</b>	0.007
Wired terminals	<b>G3L11CF</b>	0.019
Wired terminals side outputs (standard potting)	<b>G3L11CFL</b>	0.019
Wired terminals side outputs (longest potting)	<b>G3L11CFLL</b>	0.020



G3L11GCS

### Microswitch with flexible roller lever actuator, side flange mounting

Solder terminals	<b>G3L11GCS</b>	0.007
Wired terminals	<b>G3L11GCF</b>	0.019
Wired terminals side outputs (standard potting)	<b>G3L11GCFL</b>	0.019
Wired terminals side outputs (longest potting)	<b>G3L11GCFL</b>	0.020

### Microswitch with pin actuator, front flange mounting

Solder terminals	<b>G3A1PS</b>	0.006
Wired terminals	<b>G3A1PF</b>	0.018
Wired terminals side outputs (standard potting)	<b>G3A1PFL</b>	0.018
Wired terminals side outputs (longest potting)	<b>G3A1PFLL</b>	0.019

### Microswitch with pin actuator, M14 threaded body

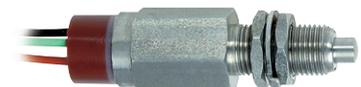
Solder terminals	<b>G3A1VS</b>	0.014
Wired terminals	<b>G3A1VF</b>	0.026
Wired terminals side outputs (standard potting)	<b>G3A1VFL</b>	0.026
Wired terminals side outputs (longest potting)	<b>G3A1VFLL</b>	0.027



G3A1VS

### Microswitch with telescopic plunger actuator; M8 threaded body

Solder terminals	<b>G3P30S</b>	0.014
Wired terminals	<b>G3P30F</b>	0.026
Wired terminals side outputs (standard potting)	<b>G3P30FL</b>	0.026
Wired terminals side outputs (longest potting)	<b>G3P30FLL</b>	0.027



G3P30F

### Microswitch with telescopic ball bearing plunger actuator; M8 threaded body

Solder terminals	<b>G3BS</b>	0.015
Wired terminals	<b>G3BF</b>	0.027
Wired terminals side outputs (standard potting)	<b>G3BFL</b>	0.027
Wired terminals side outputs (longest potting)	<b>G3BFLL</b>	0.028



G3BS

### Microswitch with telescopic roller plunger actuator; M12 threaded body

Solder terminals	<b>G3P30GS</b>	0.028
Wired terminals	<b>G3P30GF</b>	0.040
Wired terminals side outputs (standard potting)	<b>G3P30GFL</b>	0.040
Wired terminals side outputs (longest potting)	<b>G3P30GFL</b>	0.041



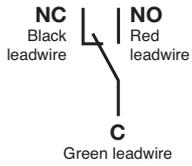
G3P30GFL

# G3 Hermetically sealed Microswitches



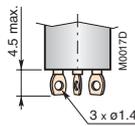
## Circuit diagram

## Raccordement



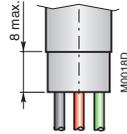
- Solder terminals

"S"



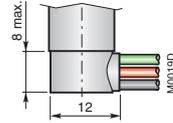
- Wired terminals

"F"



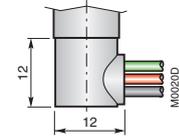
- Wired terminals side outputs (standard potting)

"FL"



- Wired terminals side outputs (longest potting)

"FLL"

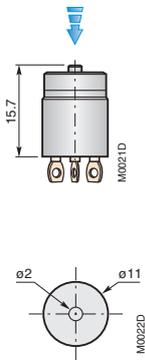


Leadwires are right oriented in standard configuration. Consult us for other orientations

## Dimensions - Cutout

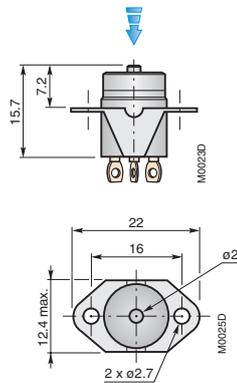
Solder terminal devices are shown on below drawings

**G3A1...**



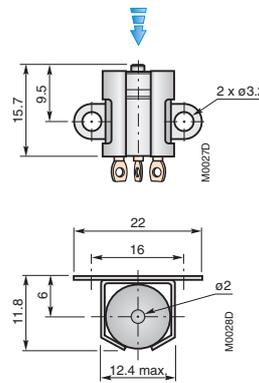
**G3A1P...**

Mounting holes for M2.5 screws



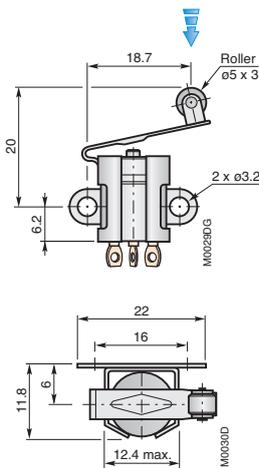
**G3A1C...**

Mounting holes for M3 screws.



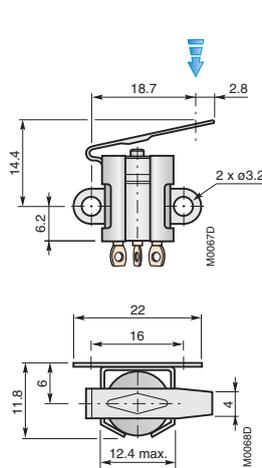
**G3L11GC ...**

Mounting holes for M3 screws



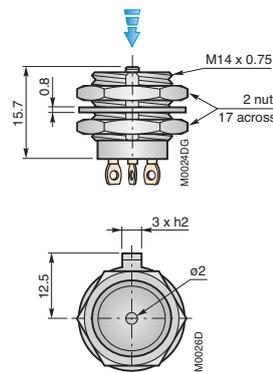
**G3L11C ...**

Mounting holes for M3 screws

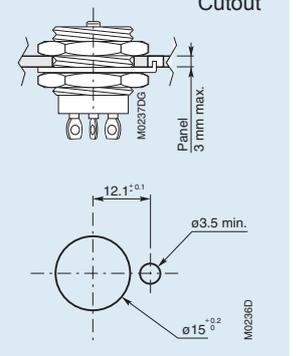


**G3A1V ...**

Panel mounting by threaded bushing and nuts  
Recommended tightening torque: 10 Nm



Cutout

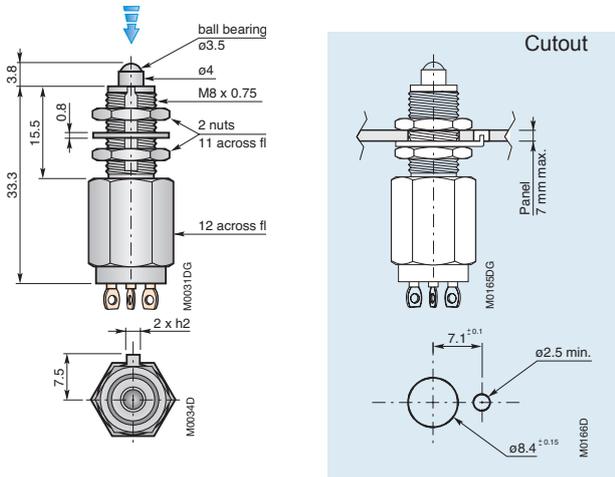


# G3 Hermetically sealed Microswitches

## Dimensions - Cutout (continued)

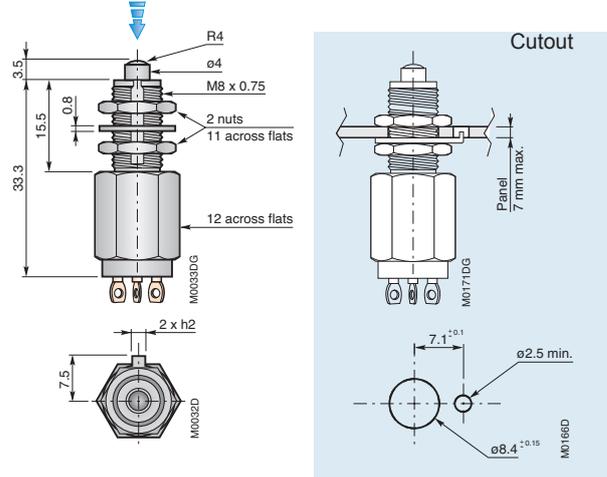
### G3B ...

Panel mounting by threaded bushing and nuts  
Recommended tightening torque: 4 Nm



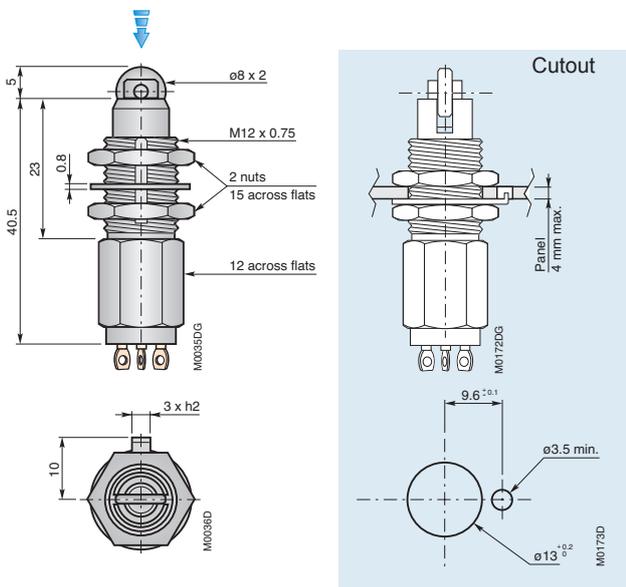
### G3P30 ...

Panel mounting by threaded bushing and nuts  
Recommended tightening torque: 4 Nm.



### G3P30G ...

Panel mounting by threaded bushing and nuts  
Recommended tightening torque: 9 Nm



Panel cutout and keying according to 1SBC14800M1700 document on request.