

## Application

Subminiature Microswitch for use in locations where watertightness is required.

- Operating temperature from -55 °C to +150 °C
- Rated breaking capacity: from few mA up to 4 amperes
- Degree of protection: IP65 / IP67
- Mechanical service life: 500 000 cycles

## Description

Environment sealed snap-action switch.

- Plastic casing: PPS Ryton®
- Gold plated contacts.
- Mounting holes for M2 screws.
- Terminal: 0.38 mm<sup>2</sup> (AWG 22) leadwires\*, FEP insulation.  
\* Compliant to AIR 4524 specification ; NF L 52-125A Category B of 1971 - lightweight cables. Interchangeability: AICMA No 5116 recommendation of February 1961.
- Pin actuator or integral actuator (factory assembled)..

## Environmental characteristics

( For other test results, please contact us )

<b>Salt spray resistance</b>	48 hours
<b>Humidity</b>	93 % relative humidity, +40 °C duration 168 hours (7 days)
<b>Sinusoidal vibrations</b>	5 _ 500 Hz, 10 g dans les 3 axes

## Mechanical characteristics

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

Subminiature Microswitches		Z3AEF
<b>Max. operating force</b>	<b>N</b>	3.3
<b>Min. release force</b>	<b>N</b>	0.70
<b>Pretravel</b>	<b>mm</b>	0.17 ... 0.42
<b>Max. differential movement</b>	<b>mm</b>	0.06
<b>Min. overtravel (1)</b>	<b>mm</b>	0.10

(1) Do not exceed this value in use.

Microswitches with integral lever (factory assembled)		Z3AEF-L20 Z3AEF-L20G		Z3AEF-L60 Z3AEF-L60G		Z3AEF-L61 Z3AEF-L61G	
		A	B	A	B	A	B
<b>Actuating lever pivot point</b>							
<b>Max. operating force</b>	<b>N</b>	1.20	0.90	0.90	0.60	1.20	0.90
<b>Min. release force</b>	<b>N</b>	0.30	0.20	0.20	0.10	0.30	0.20
<b>Max. pretravel</b>	<b>mm</b>	1.35	1.85	2.20	2.90	1.35	1.85
<b>Max. differential movement</b>	<b>mm</b>	0.30	0.40	0.60	0.75	0.30	0.40
<b>Min. overtravel (1)</b>	<b>mm</b>	0.35	0.65	2.60	3.20	1.30	1.60

(1) Do not exceed this value in use.

## Electrical characteristics

Ratings (electrical load on one throw only)		5 mV ... 30 V d.c.	30 V d.c.	115 V a.c. - 400 Hz	220 V a.c. - 50 Hz
- resistive load	<b>A</b>	0.05	4	1	1
- inductive load	<b>A</b>	0.025 (L/R ≤ 5 ms)	0.5 (L/R ≤ 5 ms)	-	0.5 (cos φ ≥ 0.3)
<b>Electrical service life</b>	<b>cycles</b>	100 000			
<b>Changeover time</b>	<b>ms</b>	≤ 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 (50 Hz - 1 mn)</b>					
- between terminals	<b>V a.c.</b>	500 V a.c.			
- between all terminals and earth (ground)	<b>V a.c.</b>	1500 V a.c.			
<b>Insulation resistance</b>	<b>MΩ</b>	≥ 100 MΩ under 500 V d.c. (at 23 °C with < 80 % relative humidity)			

# Z3...E Watertight Subminiature Microswitches



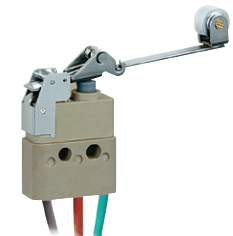
## Ordering Details

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

Lever length mm	Actuating lever pivot	P/N	Weight (1 piece) kg
<b>Microswitch with pin actuator</b>			
–	–	Z3AEF	0.007
<b>Microswitch with integral lever actuator</b>			
20	A	Z3AEF-L20A	0.008
	B	Z3AEF-L20B	0.008
<b>Microswitch with integral roller lever actuator</b>			
20	A	Z3AEF-L20GA	0.008
	B	Z3AEF-L20GB	0.008
<b>Microswitch with added overtravel lever actuator</b>			
30	A	Z3AEF-L60A	0.008
	B	Z3AEF-L60B	0.008
20	A	Z3AEF-L61A	0.008
	B	Z3AEF-L61B	0.008
<b>Microswitch with added overtravel roller lever actuator</b>			
30	A	Z3AEF-L60GA	0.008
	B	Z3AEF-L60GB	0.008
20	A	Z3AEF-L61GA	0.008
	B	Z3AEF-L61GB	0.008

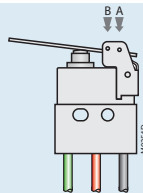


Z3AEF

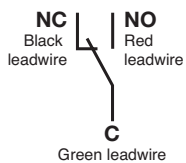


Z3AEF- L60GA

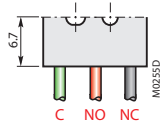
Actuating lever pivot point: **A** or **B**  
 Due to factory mounting, actuating **lever pivot point** must be defined for Microswitches with integral levers.  
 See Mechanical characteristics tables for required travel and/or force



## Circuit diagram

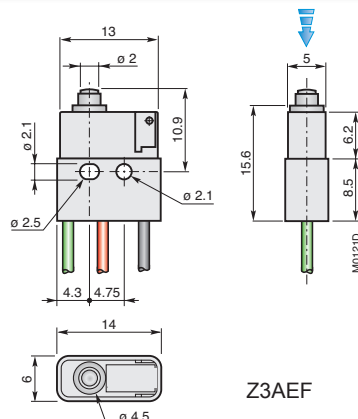


## Connection



## Dimensions

M2 Screw terminals -  
 Recommended tightening torque: 0.18 to 0.20 Nm.

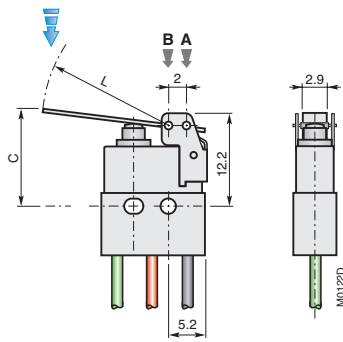


Z3AEF

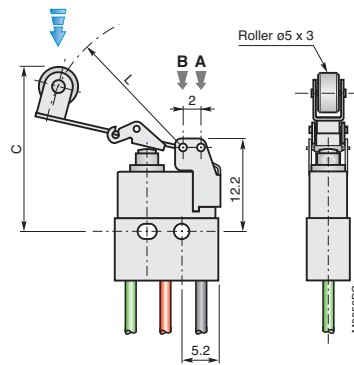
# Z3...E Watertight Subminiature Microswitches

## Dimensions (continued)

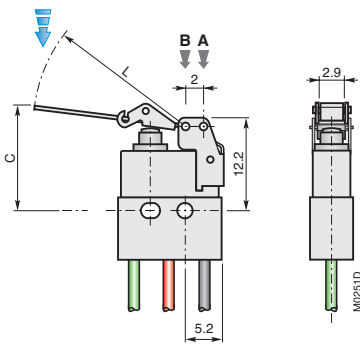
Levers	Dim. mm L	Actuating lever pivot point	Dim. mm C
L20	20	A	12.4
		B	12.6
L20G	18.5	A	14.3
		B	14.9
L61	20	A	13.3
		B	13.5
L60	30	A	14.3
		B	14.9
L61G	18.55	A	19.2
		B	19.4
L60G	28.65	A	20.2



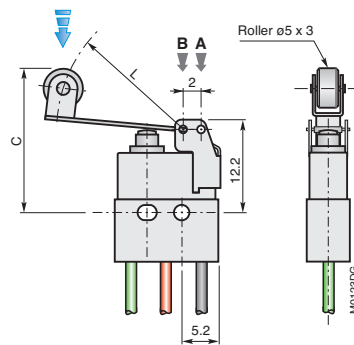
Z3AEF- L20...



Z3AEF- L20G...



Z3AEF- L60...  
Z3AEF- L61...



Z3AEF- L60G...  
Z3AEF- L61G...