

## Series 19

### 5-AMP SUB-MINIATURE SWITCHES

This fully sealed snap action switch series is ideal for applications in harsh environments where ingress of water and dust must be prevented.



### APPLICATIONS

- Industrial equipment
- Battery chargers for cordless tools
- Medical equipment
- Welding guns

### KEY FEATURES:

- Insert molded terminals—fully sealed base
- Meets IP67
- BEAB and ENEC approvals
- SPDT (Form C) circuitry
- Choice of actuator
- Silver or gold contacts
- Non-flammable switch UL94-V0 rated materials

ACTUAL SIZE

### ORDERING INFORMATION:

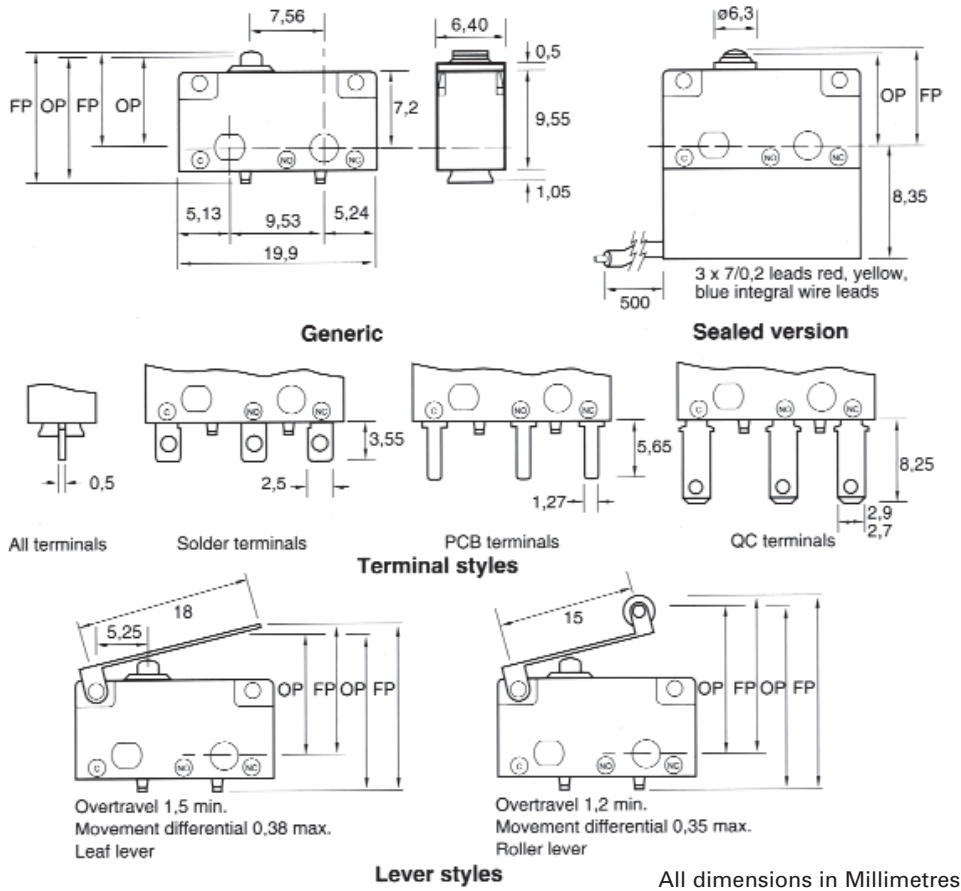
Part Number	Contacts	Actuator Style*	Terminal Style	Sealed	RoHS Compliant	IP67 Compliant
19N402	Silver	Plunger	Solder	Yes	✓	✓
19N402L18	Silver	Leaf lever	Solder	Yes	✓	✓
19N402R15	Silver	Roller lever	Solder	Yes	✓	✓
19N403	Silver	Plunger	Solder	No	✓	—
19N412	Gold	Plunger	Solder	Yes	✓	✓
19N502	Silver	Plunger	P.C.	Yes	✓	✓
19N503	Silver	Plunger	P.C.	No	✓	—
19N512	Gold	Plunger	P.C.	Yes	✓	✓
19N602	Silver	Plunger	Q.C.	Yes	✓	✓
19N603	Silver	Plunger	Q.C.	No	✓	—
19N702	Silver	Plunger	Wire Leads	Yes	✓	✓
19N712	Gold	Plunger	Wire Leads	Yes	✓	✓
19N703	Silver	Plunger	Wire Leads	No	✓	—
19N713	Silver	Plunger	Wire Leads	No	✓	—
19N920	Gold	Plunger	P.C. Right Angle (L)	Yes	—	✓
19N922	Gold	Lever	P.C. Right Angle (R)	Yes	—	✓

\*Note: Lever and roller lever actuator are available as options on most switches. Consult factory.

### STANDARDS / AGENCY / RATINGS:



PRODUCT DRAWINGS



MECHANICAL / ELECTRICAL CHARACTERISTICS:

- Overtravel:**  
.2mm (min) depress to case
- Movement differential:**  
.1mm reference
- Mechanical life:**  
10,000,000 operations
- Operating force:**  
2.0 N (203.9 gf) sealed  
1.5 N (153.0 gf) sealed
- Ingress protection:**  
IP67
- Temperature:**  
-40°C to +125°C  
(-40°F to +257°F)
- Body material:**  
Nylon 46
- Contacts:**  
Silver—Silver nickel alloy  
Gold—5 microns of gold on copper/nickel

- Terminals:**  
QC — Brass  
PCB — Tin plated brass  
Solder — Brass
- Electrical Rating (Silver):**  
250VAC (res.) — 5A (Max)  
250VAC (ind.) — 1A (Max)  
28VDC (res.) — 3A (Max)  
28VDC (ind.) — 1A (Max)
- Electrical Rating (Gold):**  
28VDC (res.) — 100mA (Max)

- Electrical Life (nominal):**  
100,000 operations
- Dielectric strength:**  
1000 VAC

- Insulation resistance:**  
1 G Ohm

- Contact resistance (initial):**  
20m Ω (max) gold,  
50m Ω (max) silver

- Contact bounce:**  
5 millisecond (max),  
1 millisecond per each pulse

BUTTON / LEVER POSITIONS:

Free position (F.P)

Standard switch to mounting holes.....	0.360 inches / 9,14mm (max)
Standard switch to PCB.....	0.486 inches / 12,35mm (max)
Sealed switch to mounting holes.....	0.368 inches / 9,35mm (max)
Leaf lever to mounting holes.....	0.492 inches / 12,50mm (max)
Leaf lever to PCB.....	0.618 inches / 15,70mm (max)
Roller lever to mounting holes.....	0.677 inches / 17,20mm (max)
Roller lever to PCB.....	0.803 inches / 20,40mm (max)

Operating point (O.P)

Standard switch to mounting holes.....	0.330 inches ±.016 / 8,40mm ± 0,40
Standard switch to PCB.....	0.457 inches ±.016 / 11,60mm ± 0,40
Sealed switch to mounting holes.....	0.335 inches±.016 / 8,50mm ± 0,40
Leaf lever to mounting holes.....	0.400 inches±.054 / 10,15mm ± 1,37
Leaf lever to PCB.....	0.527 inches ±.054 / 13,38mm ± 1,37
Roller lever to mounting holes.....	0.610 inches ±.045 / 15,50mm ± 1,14
Roller lever to PCB.....	0.719 inches ±.045 / 18,25mm ± 1,14

Designs and specifications are subject to change without notice due to product improvement.