

# 9000 series

## Subminiature momentary pushbutton switches

*Distinctive features and specifications*



- Panel and PC mount models, horizontal or vertical
- Self-cleaning and butt action contacts
- Several plunger options

### ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load : 100mA 30VDC
- Initial contact resistance : 30 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength :  
500 Vrms 50 Hz min. between terminals  
1.000 Vrms 50 Hz min. between terminals and frame
- Electrical life at full load :  
9100 - 9200N and 9500N : 250.000 cycles  
9200 - 9500 : 100.000 cycles

### MATERIALS

- Case : Pa6T
- Actuator : polyamide, glass filled
- Bushing : brass, nickel plated
- Contacts :  
CD : brass, gold plated
- Terminal seal : epoxy

### GENERAL SPECIFICATIONS

- Torque : 0,5 Nm (.590 Ft.lb) max. applied to nut
- Operating temperature : -30°C to +65°C
- Panel thickness : 1,50 mm (.059) max.
- Travels : see table below  
Tolerance : +/- 0,3 mm (.011)

	9533-9233	9532-9232	9533N 9233N-9133
Total travel	1,10 (.043)	1,80 (.070)	1 (.039)
Pre-travel	0,80 (.031)	1,00 (.039)	-
Over travel	0,30 (.011)	0,75 (.029)	-

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### Overview



**SERIES**

**Number of poles**  
3 Single pole

**Electrical functions**  
2 Normally closed (NC)  
3 Normally open (NO)

**Terminals, case and bushing**

**Case height 8 (.314)**  
2 Straight terminals - threaded bushing  
2..Y Tall bracket - plain bushing  
2..WW Right angle terminals - plain bushing  
5 Solder lugs - threaded bushing

**Case height 6,1 (.240)**  
1 Straight terminals - threaded bushing - 7,10 (.279) PCB to panel  
1..Y Short bracket - plain bushing  
1..WW Right angle terminals - plain bushing  
2..N Straight terminals - threaded bushing - 8,90 (.350) PCB to panel  
2..NY Tall bracket - plain bushing  
5..N Solder lugs - threaded bushing



**Contact materials**  
CD Gold plated brass (standard)



**Sealing**  
Blank Epoxy sealed terminals standard  
K Front panel sealing by two O-rings



**Plunger**  
Blank Standard  
-0 Flush  
-4 Long



**Caps**  
For plunger -4  
U4310 Height 4 (.157)  
U4320 Height 3,9 (.153)



**Mounting bezel**  
U4922  
For 9500 model only.

#### ABOUT THIS SERIES

On the following pages, you will find successively :  
- model structure of switches  
- their options in the same order as in above chart

**Dimensions** : first dimensions are in mm while inches are shown as bracketted numbers.



**NOTICE** : please note that not all combinations of above numbers are available. Refer to the following pages for further information.



**Sealing boots** are available to protect the switches. They are presented in section H.



**Mounting accessories** : standard hardware supplied with all threaded bushing models : 1 nickel plated hex nut 5 (.196) across flats, part number U544. This nut is presented after model structure of switches.



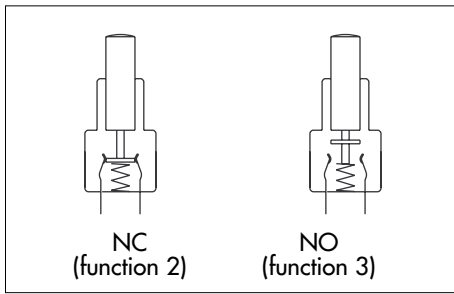
**Packaging unit** : 100 pieces.



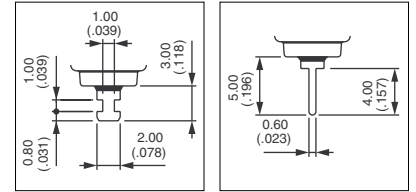
# 9000 series

## Subminiature momentary pushbutton switches

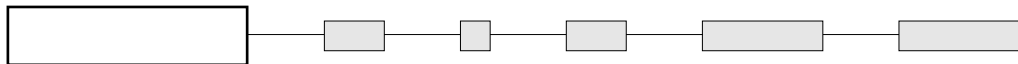
Solder lug or straight PC terminals : 9500 - 9200 - 9200Y



- Case height 8 (.314)
- With over travel
- Self-cleaning contacts
- Epoxy sealed terminals standard



MODEL STRUCTURE



### Threaded bushing - solder lugs : 9500

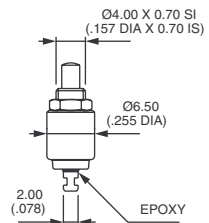
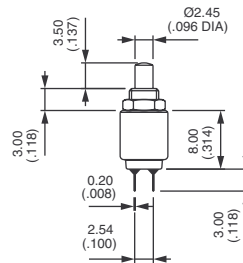


9532

Normally Closed

9533

Normally Open



### Threaded bushing - straight PC terminals : 9200

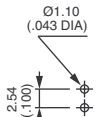
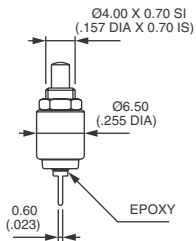
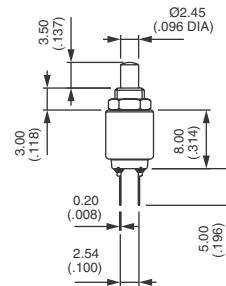


9232

Normally Closed

9233

Normally Open



### Straight PC terminals - bracket mounting : 9200Y

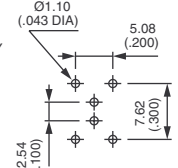
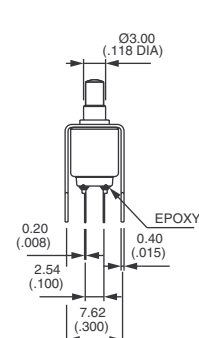
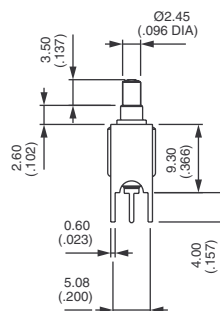


9232Y

Normally Closed

9233Y

Normally Open



# 9000 series

## Subminiature momentary pushbutton switches

Right angle terminals : 9200WW



### Right angle terminals : 9200WW

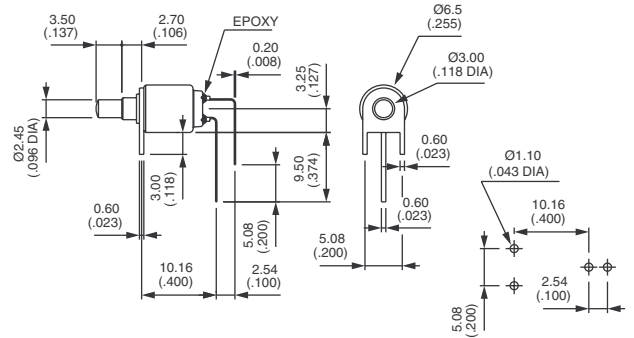


9232WW

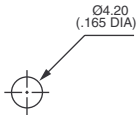
Normally Closed

9233WW

Normally Open

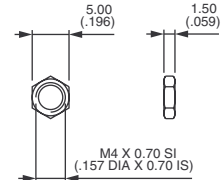


#### PANEL CUT-OUT



#### STANDARD HARDWARE

9500 - 9200



**U544** (nickel plated)

For threaded bushing models.

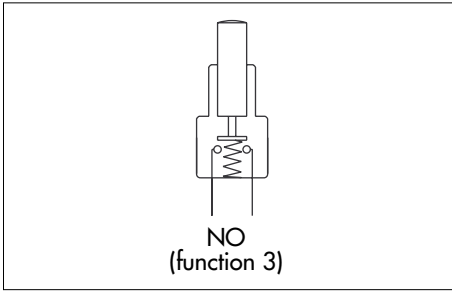
B



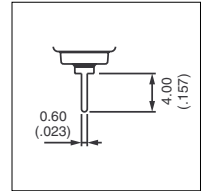
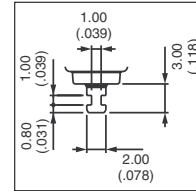
# 9000 series

## Subminiature momentary pushbutton switches

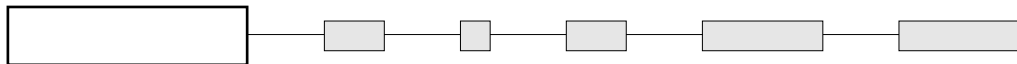
Solder lug or straight PC terminals : 9500N - 9200N - 9100



- Case height 6,1 (.240)
- Epoxy sealed terminals
- Butt action contacts



MODEL  
STRUCTURE



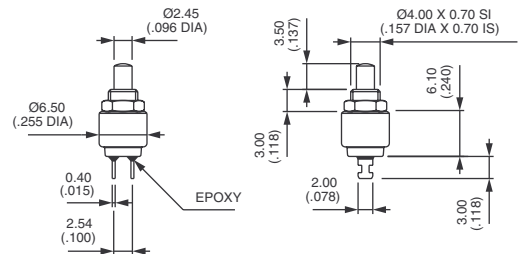
### Threaded bushing - solder lugs : 9500N



9533N



Normally Open



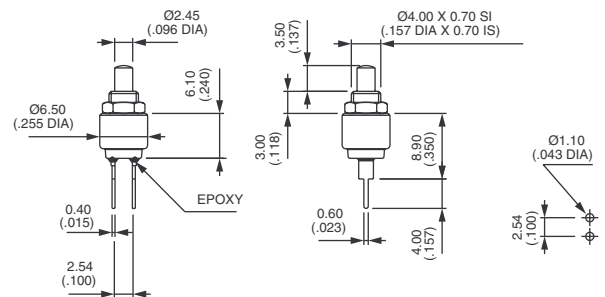
### Threaded bushing - straight PC terminals - 8,90 (.350) PCB to panel



9233N



Normally Open



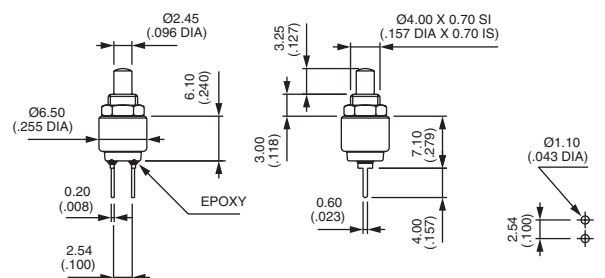
### Threaded bushing - straight PC terminals - 7,10 (.279) PCB to panel



9133



Normally Open



# 9000 series

## Subminiature momentary pushbutton switches

Straight PC or right angle terminals : 9200NY - 9100Y - 9100WW



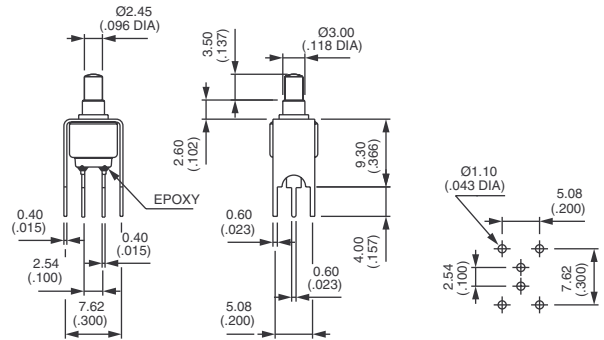
### Straight PC terminals - tall bracket : 9200NY



9233NY



Normally Open



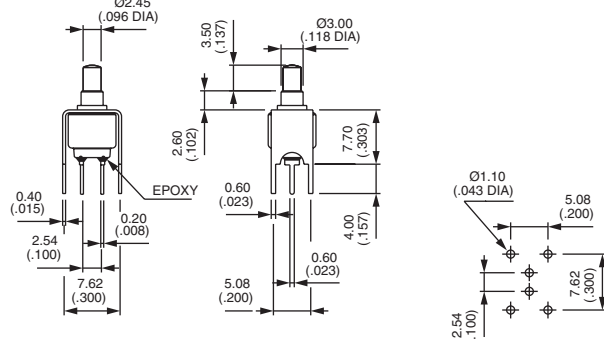
### Straight PC terminals - short bracket : 9100Y



9133Y



Normally Open



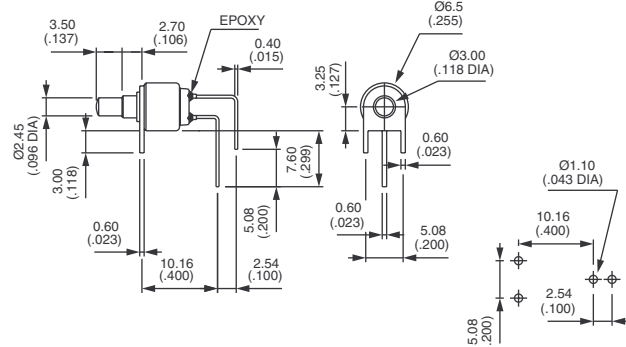
### Right angle terminals - vertical : 9100WW



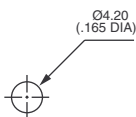
9133WW



Normally Open



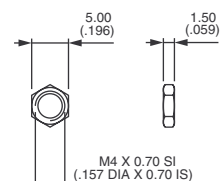
#### PANEL CUT-OUT



For threaded bushing models.

#### STANDARD HARDWARE

9500N - 9200N - 9100



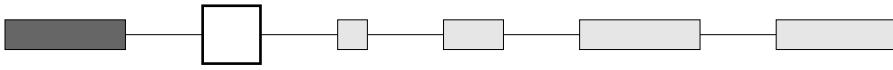
U544 (nickel plated)



# 9000 series

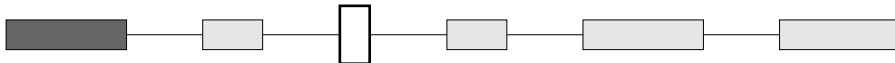
## Subminiature momentary pushbutton switches

### CONTACT MATERIALS



**CD** Gold plated brass (standard)

### SEALING

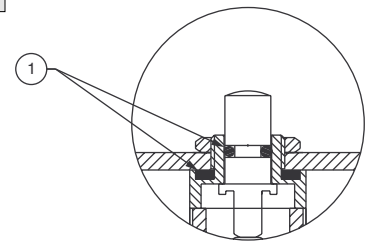


**Blank** Epoxy sealed terminals standard

**K** Front panel sealing by two O-rings. Protects the switch against water and dust. Panel seal withstands 0,1 bar pressure.

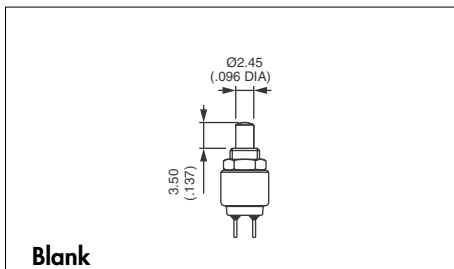
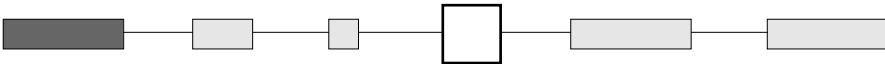


Option K for models 9533N, 9233N and 9133 only.



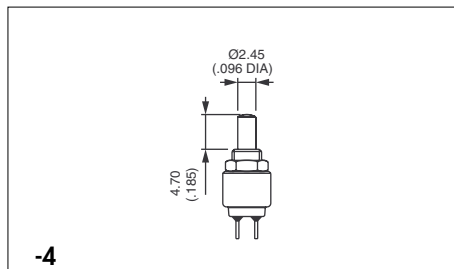
① O-rings

### PLUNGERS



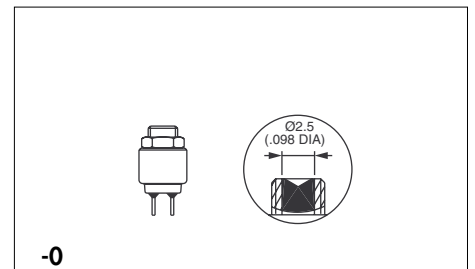
**Blank**

Standard



**-4**

Long



**-0**

Flush

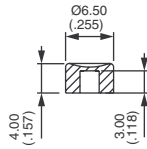
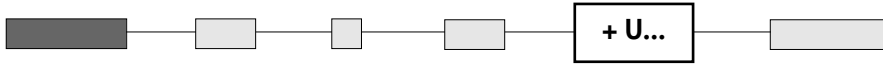
# 9000 series

## Subminiature momentary pushbutton switches

OPTIONS

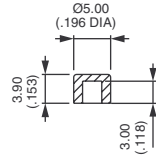


### CAPS



**U4310**

For use with plunger -4 only



**U4320**

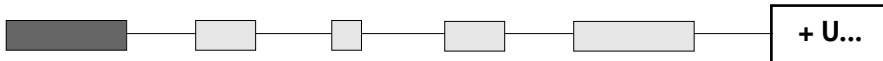
For use with plunger -4 only

### Cap colours

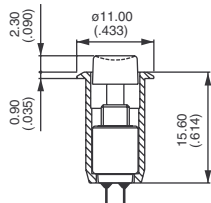
Replace "0" by number

1	blue
1/4	dark blue
2	black
3	green
4	grey
5	yellow
6	red
7	ivory
7/1	white
9	orange

### MOUNTING BEZEL



For 9500 model (case height 8 mm) only



Shown with cap U570.

The mounting bezel U4922 has been designed to facilitate the mounting of the 9500 series pushbutton switch onto a panel. The switch + bezel assembly is snapped into the equipment through the front of the panel, then electrically connected by solder lug terminals.

Panel cut-out :  $\varnothing 8,15 \text{ mm} \pm 0,05$   
(.320 DIA  $\pm .002$ )