

# 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)

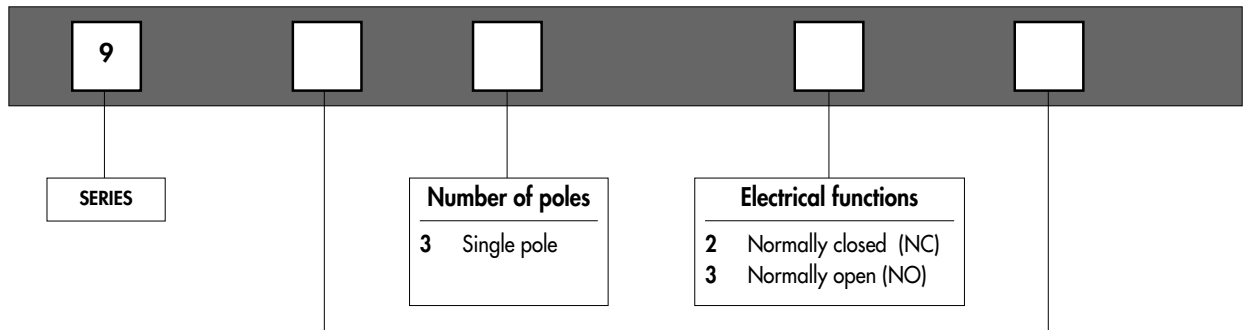
	9533-9233	9532-9232	9533N 9233N-9133
Total travel	1,10 (.043)	1,80 (.070)	1 (.039)
Pre-travel	0,80 (.031)	1,00 (.039)	-
Over travel	0,30 (.011)	0,75 (.029)	-

B

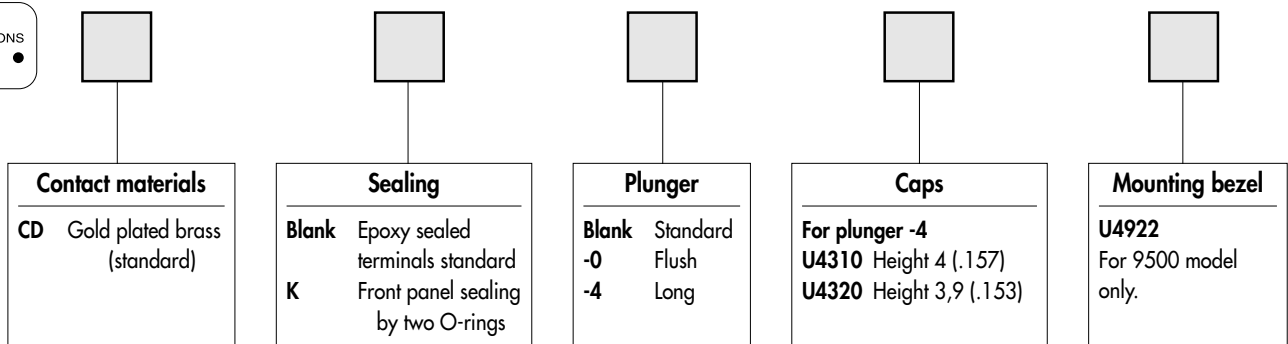
# 9000 series

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### Overview



Terminals, case and bushing	
<b>Case height 8 (.314)</b>	
2	Straight terminals - threaded bushing
2..Y	Tall bracket - plain bushing
2..WW	Right angle terminals - plain bushing
5	Solder lugs - threaded bushing
<b>Case height 6,1 (.240)</b>	
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



#### 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.



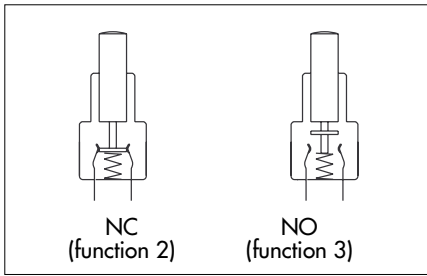
**Packaging unit** : 100 pieces.



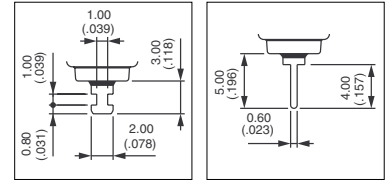
# 9000 series

## Subminiature momentary pushbutton switches

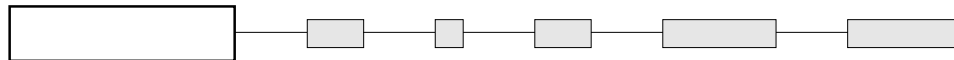
Solder lug or straight PC terminals : 9500 - 9200 - 9200Y



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



MODEL STRUCTURE



B

### Threaded bushing - solder lugs : 9500

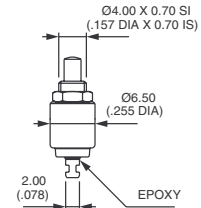
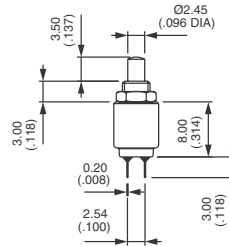


9532

Normally Closed

9533

Normally Open



### Threaded bushing - straight PC terminals : 9200

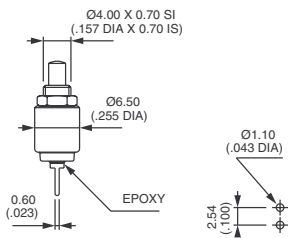
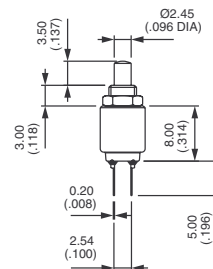


9232

Normally Closed

9233

Normally Open



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

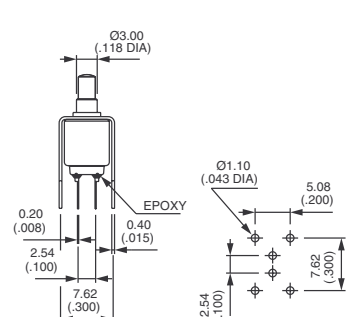
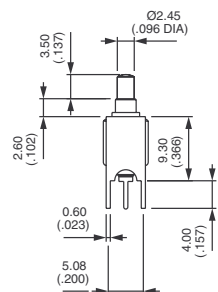


9232Y

Normally Closed

9233Y

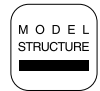
Normally Open



# 9000 series

## Subminiature momentary pushbutton switches

Right angle terminals : 9200WW



### Right angle terminals : 9200WW

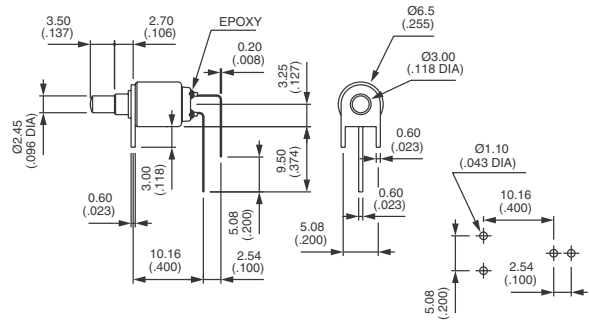


9232WW 

Normally Closed

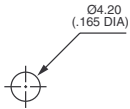
9233WW 

Normally Open



B

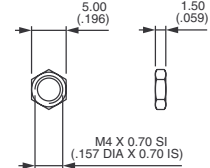
#### PANEL CUT-OUT



For threaded bushing models.

#### STANDARD HARDWARE

9500 - 9200



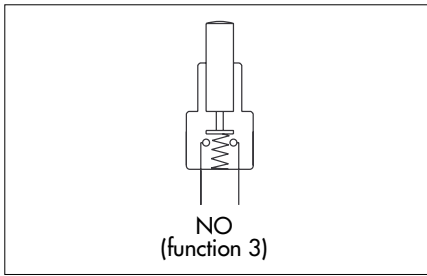
**U544** (nickel plated)



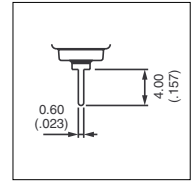
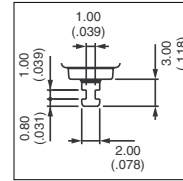
# 9000 series

## Subminiature momentary pushbutton switches

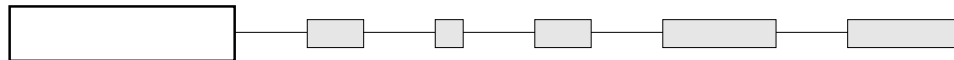
Solder lug or straight PC terminals : 9500N - 9200N - 9100



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



MODEL STRUCTURE



B

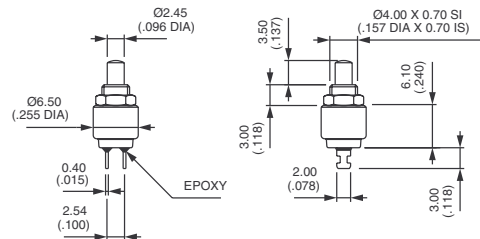
### Threaded bushing - solder lugs : 9500N



9533N



Normally Open



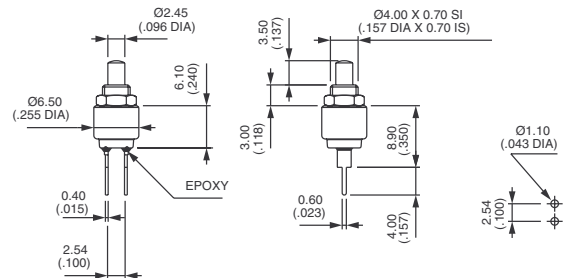
### Threaded bushing - straight PC terminals - 8,90 (.350) PCB to panel



9233N



Normally Open



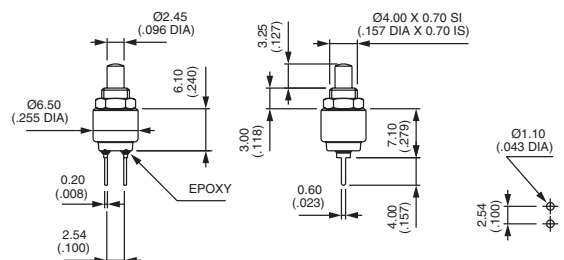
### Threaded bushing - straight PC terminals - 7,10 (.279) PCB to panel



9133



Normally Open



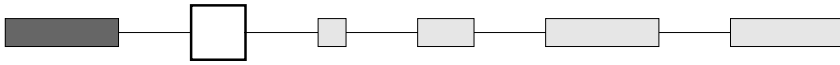




# 9000 series

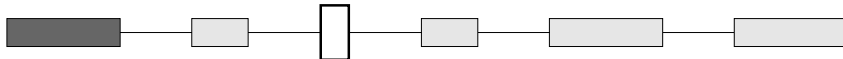
## Subminiature momentary pushbutton switches

### CONTACT MATERIALS



**CD** Gold plated brass (standard)

### SEALING

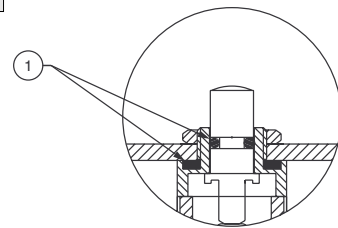


**Blank** Epoxy sealed terminals standard

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

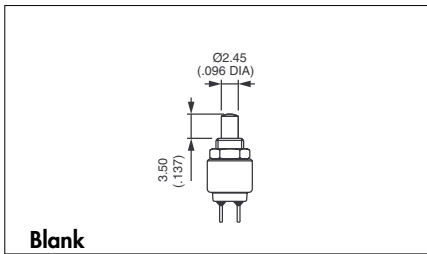
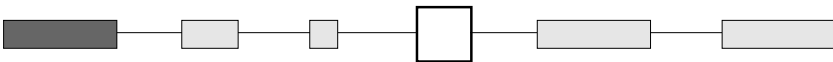


Option K for models 9533N, 9233N and 9133 only.



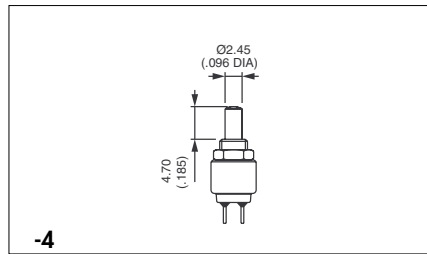
① O-rings

### PLUNGERS



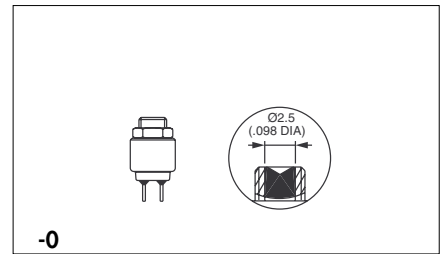
**Blank**

Standard



**-4**

Long



**-0**

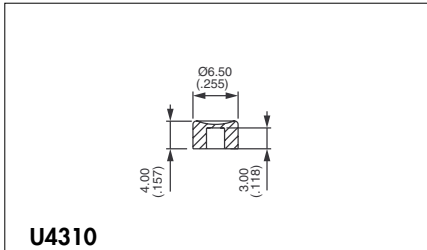
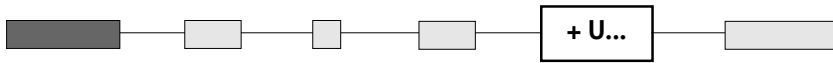
Flush

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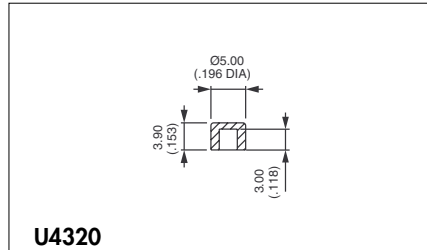


### CAPS



**U4310**

For use with plunger -4 only



**U4320**

For use with plunger -4 only

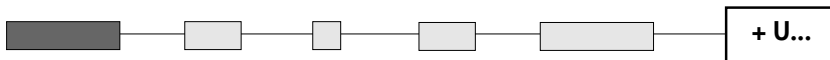
#### Cap colours

Replace "0" by number

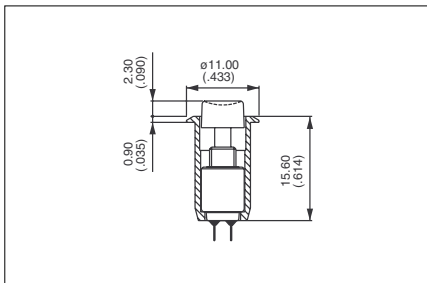
- 1 blue
- 1/4 dark blue
- 2 black
- 3 green
- 4 grey
- 5 yellow
- 6 red
- 7 ivory
- 7/1 white
- 9 orange

**B**

### 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  $\pm .002$ )