

9100-9200-9500 series

Subminiature momentary pushbutton switches



DISTINCTIVE FEATURES

- 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 : 100 mA 30 VDC
- Initial contact resistance : 30 mΩ max.
- Insulation resistance : 1,000 MΩ min. at 500 VDC
- 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



GENERAL SPECIFICATIONS

- Torque : 0.5 Nm (.590 Ft.lb) max. applied to nut
- Operating temperature : -30 °C to +65 °C (-22 °F to +146 °F)
- 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)	-



MATERIALS

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

APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

The company reserves the right to change specifications without notice.

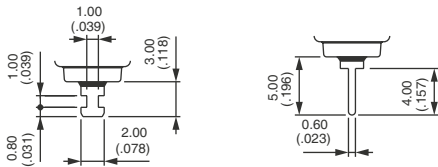


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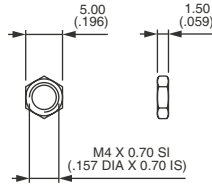
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TERMINALS



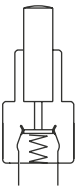
STANDARD HARDWARE (FOR THREADED BUSHING MODELS)



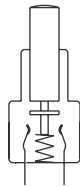
U544 (nickel plated)



ELECTRICAL FUNCTIONS



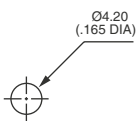
Function 2 (NC)



Function 3 (NO)



PANEL CUT-OUT

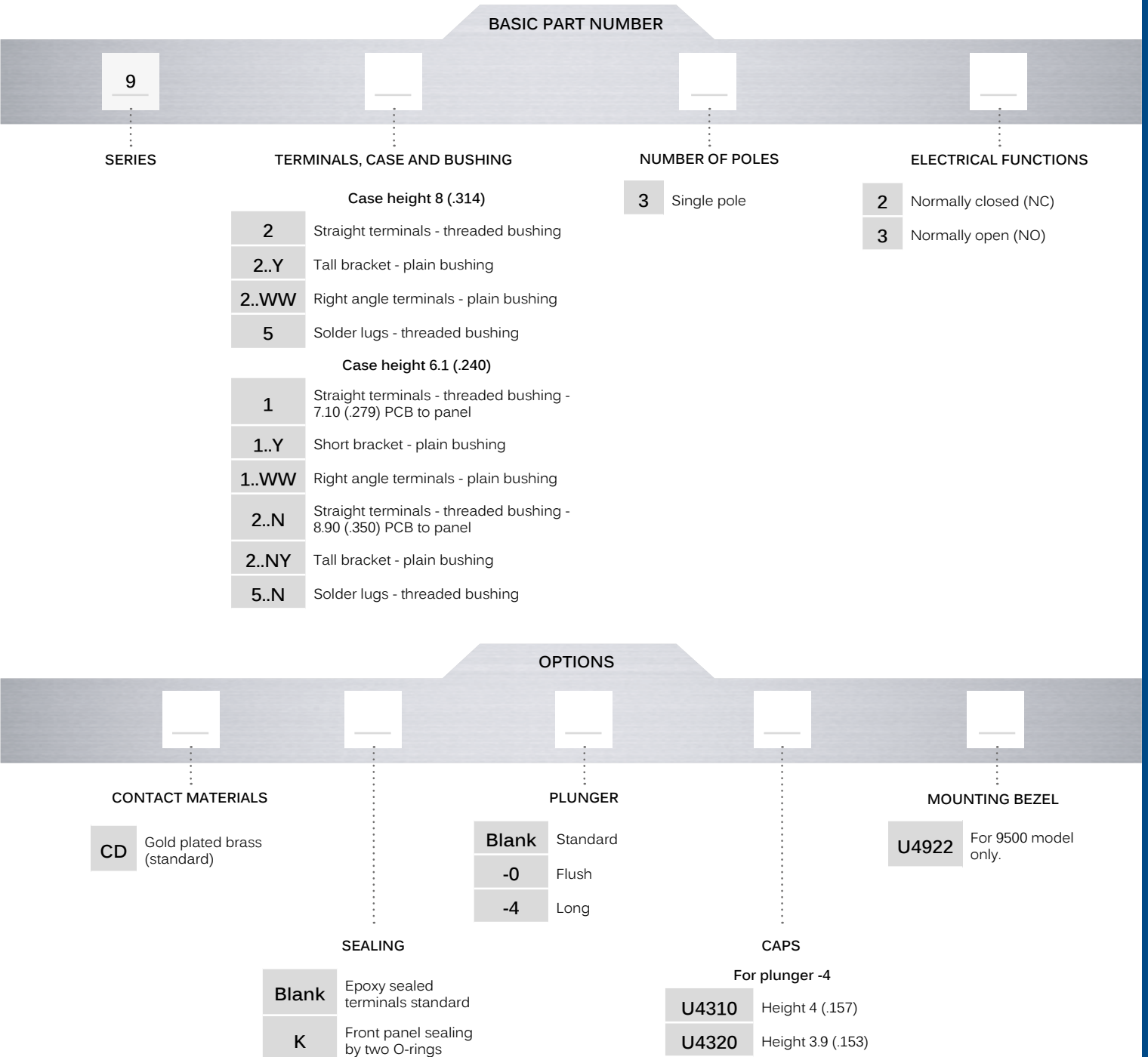


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BUILD YOUR PART NUMBER



ABOUT THIS SERIES

On the following pages, you will find successively basic part numbers of switches and options in the same order as in above chart.

- ⚠ **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. See "Sealing Boots" section of website.
- 🔩 **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 on previous page.

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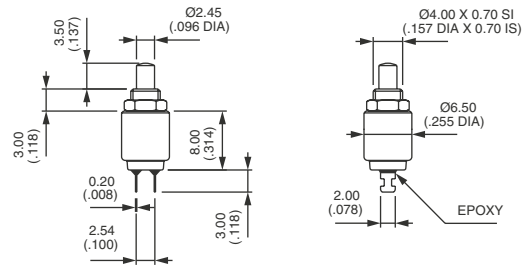
Subminiature momentary pushbutton switches

LONG CASE - SOLDER LUGS : 9500



9532  Normally Closed

9533  Normally Open

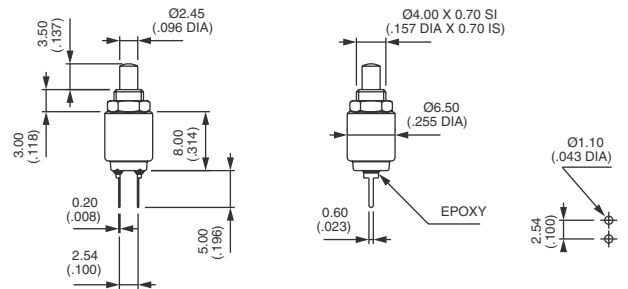


LONG CASE - STRAIGHT PC TERMINALS : 9200



9232  Normally Closed


9233  Normally Open

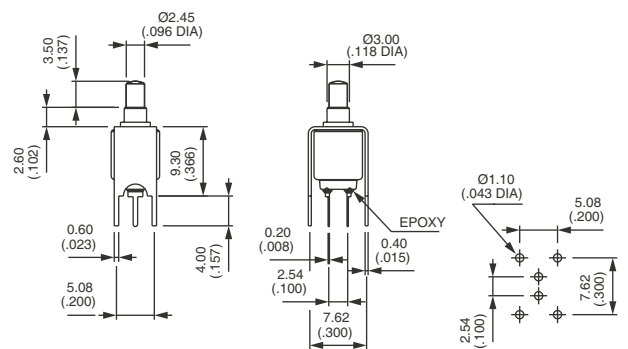


LONG CASE - STRAIGHT PC TERMINALS BRACKET MOUNTING : 9200Y



9232Y  Normally Closed

9233Y  Normally Open

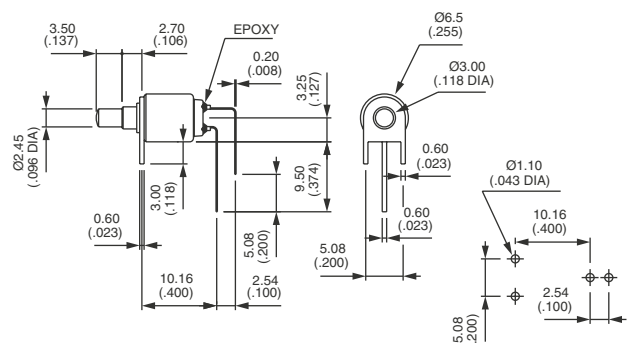


LONG CASE - RIGHT ANGLE TERMINALS : 9200WW



9232WW  Normally Closed

9233WW  Normally Open



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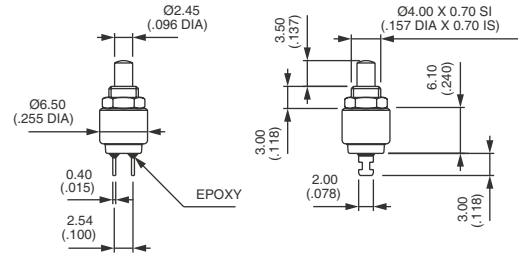
SHORT CASE - SOLDER LUGS : 9500N



9533N



Normally Open



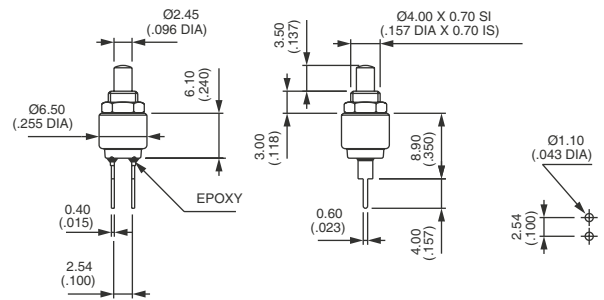
SHORT CASE - STRAIGHT PC TERMINALS 8.90 (.350) PCB TO PANEL



9233N



Normally Open



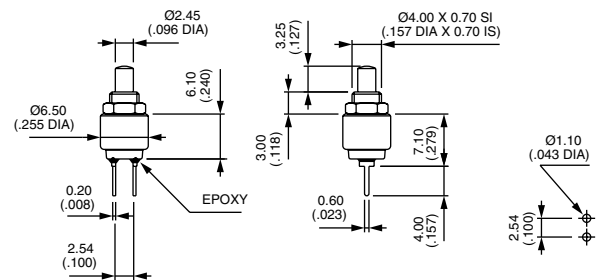
SHORT CASE - STRAIGHT PC TERMINALS 7.10 (.279) PCB TO PANEL



9133



Normally Open



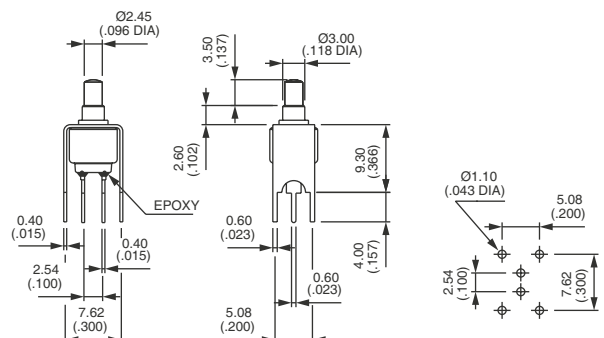
SHORT CASE - STRAIGHT PC TERMINALS TALL BRACKET : 9200NY



9233NY



Normally Open



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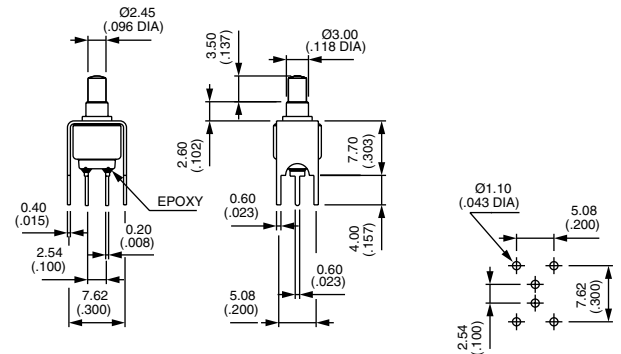
SHORT CASE - STRAIGHT PC TERMINALS SHORT BRACKET : 9100Y



9133Y



Normally Open



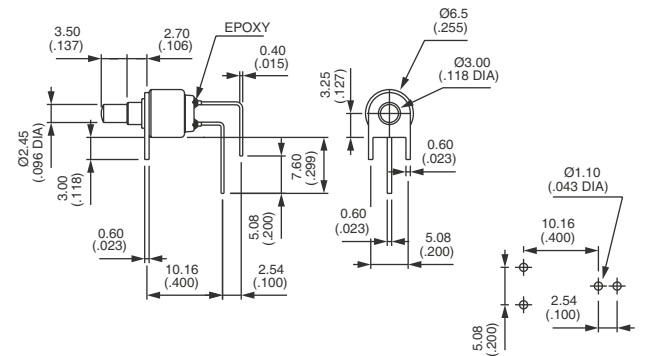
SHORT CASE - RIGHT ANGLE TERMINALS - VERTICAL : 9100WW



9133WW



Normally Open



CONTACT MATERIALS

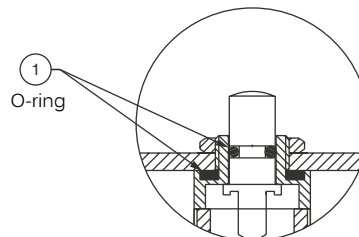
BASIC P/N

CD Gold plated brass (standard)

SEALING

BASIC P/N

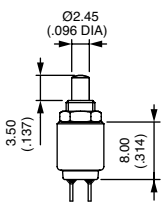
- Blank Epoxy sealed terminals standard
- K Front panel sealing by two O-rings. Protects the switch against water and dust. Panel seal withstands 0.1 bar pressure.
- ⚠ Option K for models 9533N, 9233N and 9133 only.



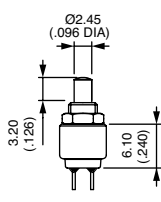
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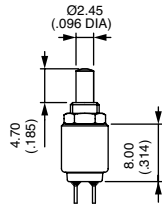
PLUNGERS



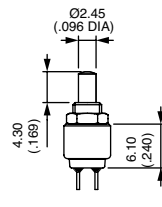
Blank
Standard
with long case



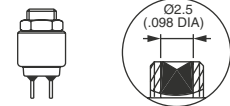
Blank
Standard
with short case



-4
Long
with long case

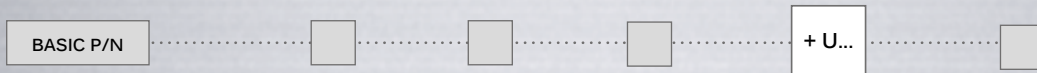


-4
Long
with short case



-0
Flush

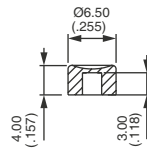
CAPS



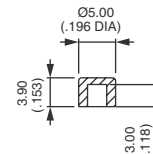
- U4310** For use with plunger -4 only
- U4320** For use with plunger -4 only

For cap colors, replace "0" with number :

- 1 Blue
- 1/4 Dark blue
- 2 Black
- 3 Green
- 4 Grey
- 5 Yellow
- 6 Red
- 7 Ivory
- 7/1 White
- 9 Orange



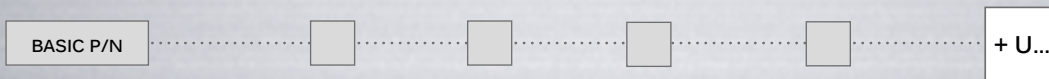
U4310



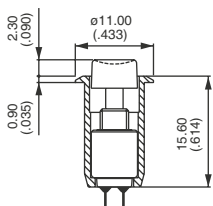
U4320

If not combined with bezel U4922, caps are to be ordered separately.

MOUNTING BEZEL



For 9500 model (case height 8 mm) only



U4922

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 : Ø 8.15 mm ± 0.05 (.320 DIA ± .002)