

TP series

Subminiature washable momentary
pushbutton switches



DISTINCTIVE FEATURES

- Process sealed
- Single piece case
- Front and rear sealing
- Wide variety of contact materials
- Same PCB layout as TL, TR and TG subminiature switches



ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
 - gold plated contacts : 0.4 VA 20 V max. AC or DC
 - silver plated contacts : 0.5 A 48 V max. AC or DC
- Minimum load : 10 mA 50 mV - 10 μ A 5 VDC
- Contact resistance : 50 m Ω max.
- Insulation resistance : 1,000 M Ω min. at 500 VDC
- Dielectric strength :
 - 1,000 Vrms 50 Hz min. between terminals and frame
 - 500 Vrms 50 Hz min. between terminals
- Electrical life at full load :
 - gold plated contacts : 60,000 cycles
 - silver plated contacts : 20,000 cycles



ENVIRONMENTAL SPECIFICATIONS

- Operating temperature : -30 °C to +85 °C (-22 °F to +185 °F)
- Moisture : 21 days 95 % (NFC 20-603 - IEC 68-2-3)



GENERAL SPECIFICATIONS

- Total travel :
 - function 2 : 1 mm (.039)
 - function 3 : 0.8 mm (.031)
- Strength of terminals : pull-out force - 10 N max.
- Cleaning : solvents or water + detergent
- Wave soldering : 260 °C (500 °F) - 5 sec.

The company reserves the right to change specifications without notice.



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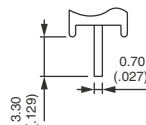
MATERIALS

- Case : PBT
- Actuator : polyamide, glass filled
- Contacts and terminals :
 - 0 : brass, gold plated
 - 1 : brass, silver plated
 - 3 : brass, gold plated (1.27 micron gold)
 - 8 : contact brass, gold plated + tin plated terminals
 - 9 : contact brass, gold plated (1.27 micron gold) + tin plated terminals
- Terminal seal : epoxy

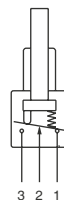
APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.



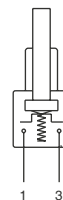
TERMINALS



ELECTRICAL FUNCTIONS



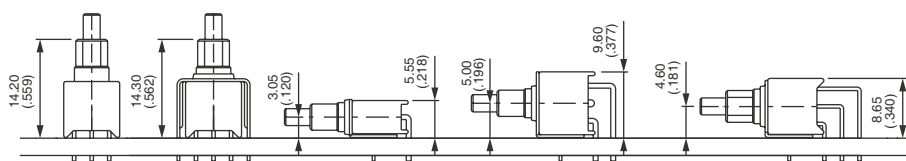
Function 2
(ON - MOM)



Function 3 (NO)
(OFF - MOM)



PCB MOUNTING

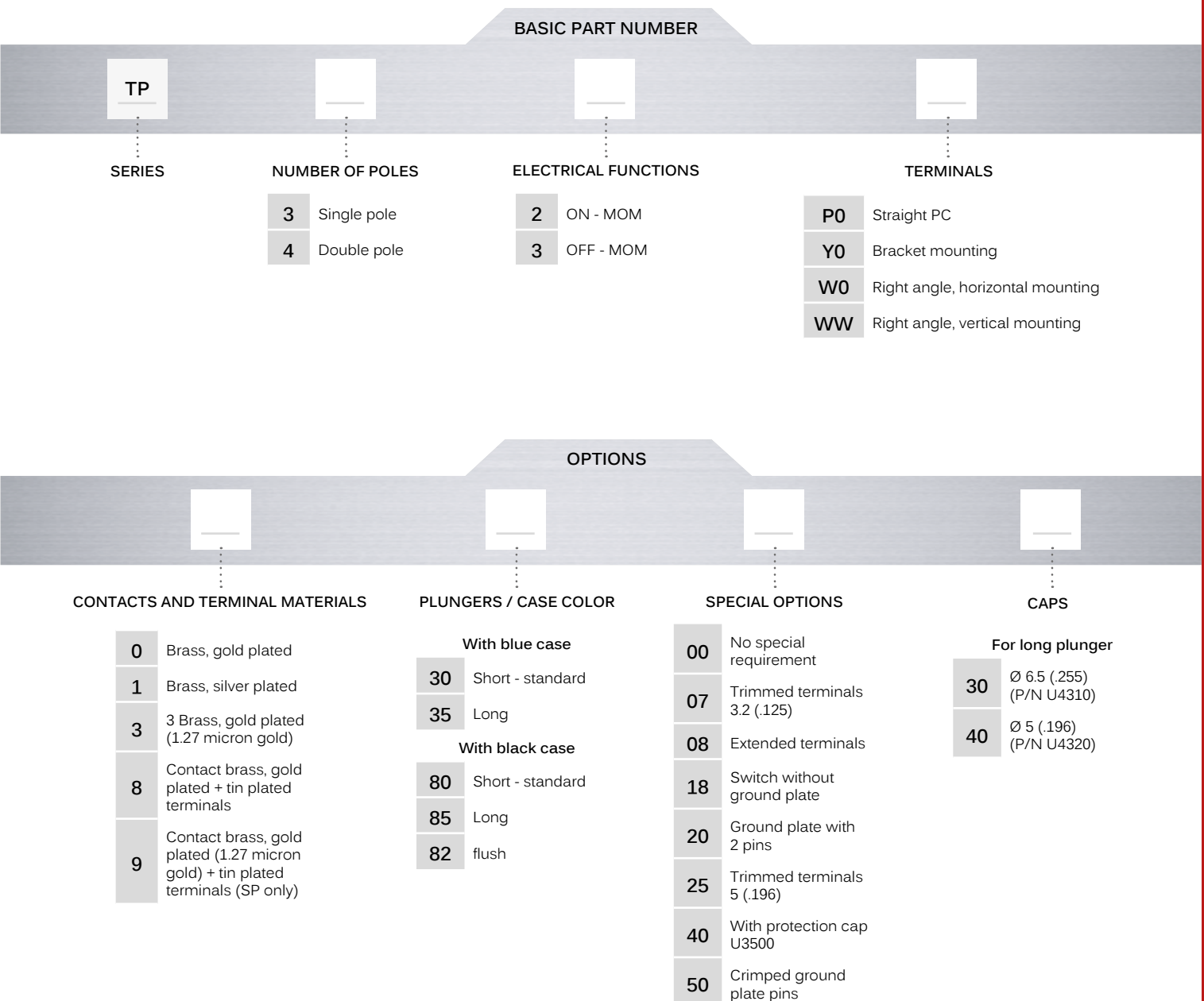


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BUILD YOUR PART NUMBER



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.

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STRAIGHT PC TERMINALS : TP..P0



Single pole

Double pole



ON



MOM

TP32P0

TP42P0

TP33P0

TP43P0

OFF

MOM

Function 3 has two terminals only (3 and 1) per pole

STRAIGHT TERMINALS BRACKET MOUNTING : TP..Y0



Single pole

Double pole



ON



MOM

TP32Y0

TP42Y0

TP33Y0

TP43Y0

OFF

MOM

Function 3 has two terminals only (3 and 1) per pole

RIGHT ANGLE TERMINALS HORIZONTAL MOUNTING : TP..W0



Single pole

Double pole



ON



MOM

TP32W0

TP42W0

TP33W0

TP43W0

OFF

MOM

Function 3 has two terminals only (3 and 1) per pole

RIGHT ANGLE TERMINALS VERTICAL MOUNTING : TP..WW



Single pole

Double pole



ON



MOM

TP32WW

TP42WW

TP33WW

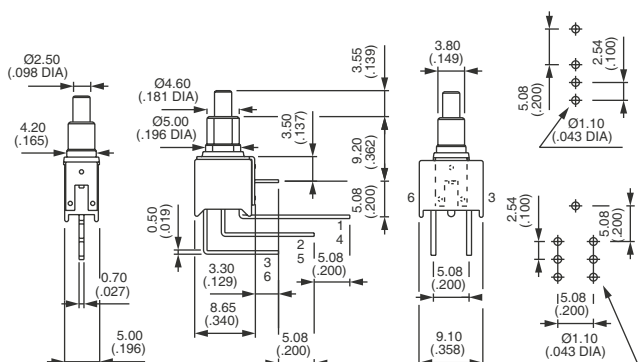
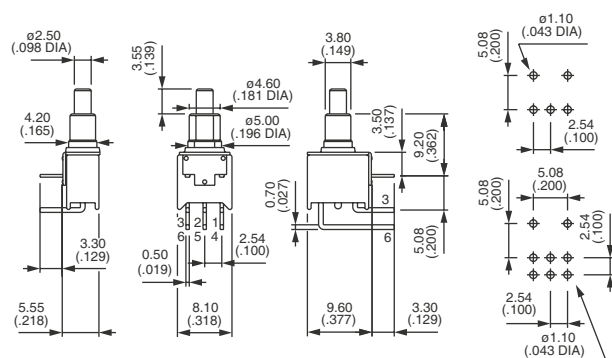
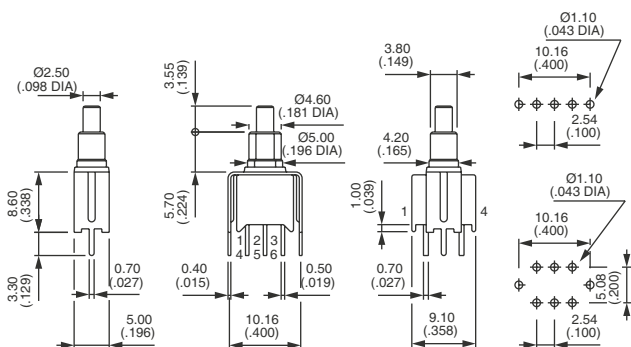
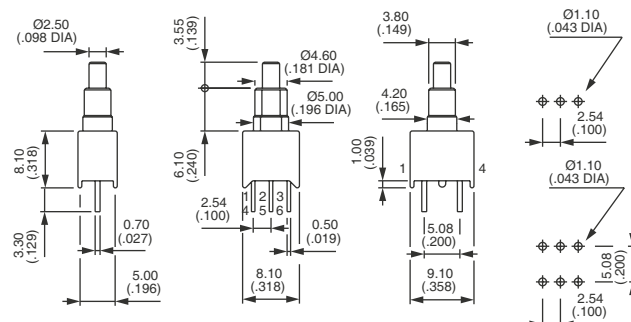
TP43WW

OFF

MOM

Function 3 has two terminals only (3 and 1) per pole

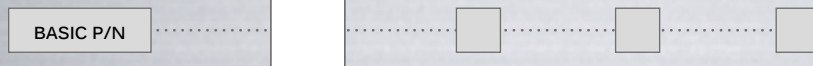
Shown in function 2, with standard plunger



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CONTACT AND TERMINAL MATERIALS



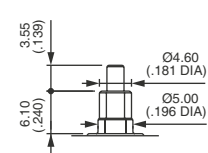
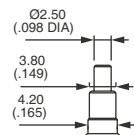
- 0 Brass, gold plated
- 1 Brass, silver plated
- 3 Brass, gold plated (1.27 micron gold)
- 8 Contact brass, gold plated + tin plated terminals
- 9 Contact brass, gold plated (1.27 micron gold) + tin plated terminals (single pole only)

PLUNGERS

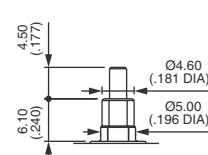
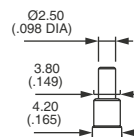


Standard plunger color is black.

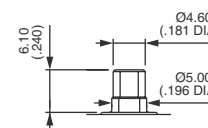
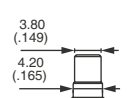
- 30 Short - standard - with blue case
- 80 Short - standard - with black case
- 35 Long with blue case
- 85 Long with black case
- 82 Flush with black case



Short - standard



Long

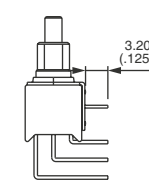


Flush

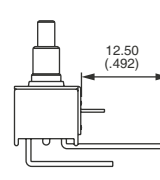
SPECIAL OPTIONS



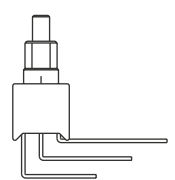
- 00 No special requirement
- 07 **Trimmed terminals** - length 3.2 mm (.125) for TP..WW models only
- 08 **Extended terminals** for TP..W0 models only
- 18 Switch **without ground plate** for TP..WW models only
- 20 **Ground plate with 2 pins** for TP..WW models only
- 25 **Trimmed terminals** - length 5 mm (.196) for all models, except TP..WW



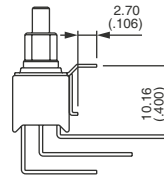
07



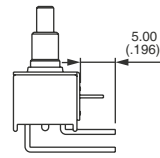
08



18



20

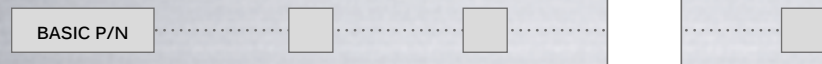


25

TP series

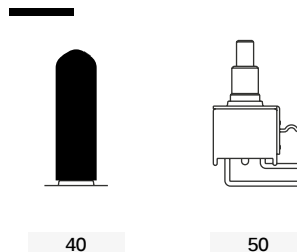
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SPECIAL OPTIONS (CONTINUED)



40 With cap U3500 mounted over plunger and bushing. Further protects the switch during PCB processing

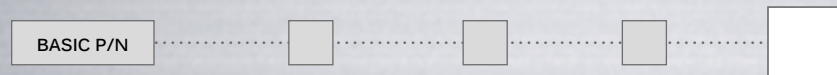
50 **Crimping of ground plate pins.**
Retains switch on PC during handling and wave soldering.
For models TP..W0, TP..WW and TP..Y0 single and double pole.



40

50

CAPS



Blank Without cap

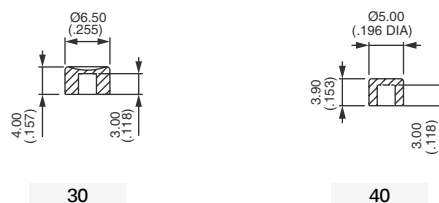
30 P/N U4310 - for long plunger only

40 P/N U4320 - for long plunger only

To order caps separately, use their part number (U...).

For cap colors, 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



30

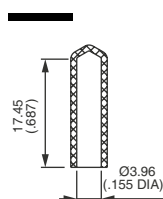
40

CAPS FOR PCB PROCESSING

Order separately

Provide additional protection during PCB processing.
Supplied separately. For cap mounted on the switch, see special option 40.

Material : vinyl



U3502