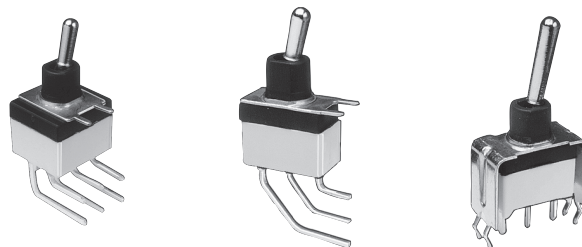


## S SERIES - WASHABLE MINIATURE TOGGLE SWITCHES, P.C. MOUNTING



### FEATURES

- Wave solderable.
- Fully sealed for process compatibility.
- SPDT & DPDT models.
- Compact case size with ESD protection options.
- Agency recognition (see below).

### SPECIFICATIONS

|                                           |                                                                                                                                                                                                                                                          |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contact ratings (resistive loads):</b> | Gold plated brass; 0.4 Volt-Amps max. at 20 V max.<br>Silver; 2 Amps at 250 VAC, 5 Amps at 125 VAC or 4 Amps at 30 VDC.<br>Gold plated silver; 2 Amps at 250 VAC, 5 Amps at 125 VAC or 4 Amps at 30 VDC. Gold plating withstands up to 300 mA at 30 VDC. |
| <b>Initial contact resistance:</b>        | 10 milliohms maximum                                                                                                                                                                                                                                     |
| <b>Insulation resistance:</b>             | 1000 megohms minimum                                                                                                                                                                                                                                     |
| <b>Dielectric strength:</b>               | 1000 V rms minimum                                                                                                                                                                                                                                       |
| <b>Electrical life:</b>                   | Gold: 2 positions - 100,000 cycles min. 3 positions - 50,000 cycles min.<br>Silver: 40,000 cycles minimum.                                                                                                                                               |
| <b>Operating temperature range:</b>       | -20°C to +85°C                                                                                                                                                                                                                                           |
| <b>Washing:</b>                           | Permissible with water, detergents and freons.                                                                                                                                                                                                           |

### MATERIALS

|                                  |                                                 |
|----------------------------------|-------------------------------------------------|
| <b>Contacts &amp; Terminals:</b> | Gold plated brass, silver or gold plated silver |
| <b>Actuator:</b>                 | Chrome plated brass                             |
| <b>Bracket:</b>                  | Tin plated steel                                |
| <b>Case:</b>                     | UL94V-0 - Polyamide, glass filled or PES        |
| <b>Terminal seal:</b>            | Epoxy                                           |

### AGENCY RECOGNITION



UL, CECC, GAM T1 (military)  
 Availability: consult factory for details of recognized models.  
 Marking: to order switches marked UL or CECC, complete the appropriate box of the ordering format.  
 GAM T1 listing does not appear on the switches.

### ABOUT THIS SERIES

The material in this series is organized in the following sequence:

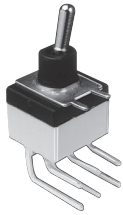
- Completely specified switch models
- 'build your own switch' order format
- Option drawings & special options
- Miscellaneous

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

# S SERIES - WASHABLE MINIATURE TOGGLE SWITCHES, P.C. MOUNTING

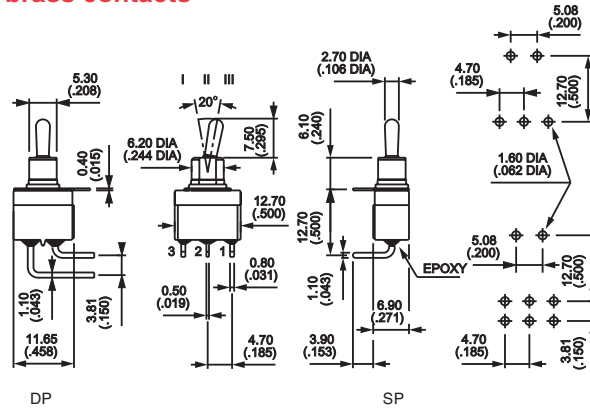
A

## Horizontal right angle terminals - .185" spacing - gold plated brass contacts



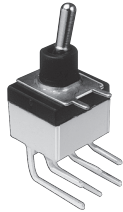
| SINGLE POLE MODEL NO.        | DOUBLE POLE MODEL NO. | CIRCUIT     |
|------------------------------|-----------------------|-------------|
| SW236CD7                     | SW246CD7              | ON - ON     |
| SW239CD7                     | SW249CD7              | ON OFF ON   |
| SW237CD7                     | SW247CD7              | MOM OFF MOM |
| SW238CD7                     | SW248CD7              | ON OFF MOM  |
| SW232CD7                     | SW242CD7              | ON - MOM    |
| -                            | SW244THCD7*           | ON ON ON    |
| Handle position (see dwg.):  |                       | III II I    |
| Terminals connected: SP & DP |                       | 2-3 2-1     |
| DP                           |                       | 5-6 4-5     |

\* Function 4: SP in DP case - see diagram at end of section.



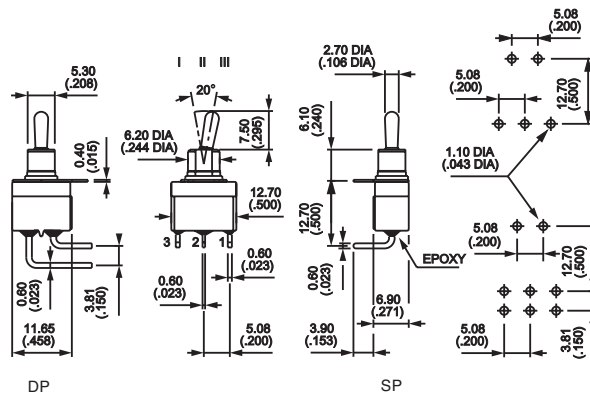
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

## Horizontal right angle terminals - .200" spacing - gold plated brass contacts

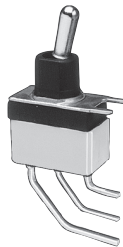


| SINGLE POLE MODEL NO.        | DOUBLE POLE MODEL NO. | CIRCUIT     |
|------------------------------|-----------------------|-------------|
| SW036CD7                     | SW046CD7              | ON - ON     |
| SW039CD7                     | SW049CD7              | ON OFF ON   |
| SW037CD7                     | SW047CD7              | MOM OFF MOM |
| SW038CD7                     | SW048CD7              | ON OFF MOM  |
| SW032CD7                     | SW042CD7              | ON - MOM    |
| -                            | SW044THCD7*           | ON ON ON    |
| Handle position (see dwg.):  |                       | III II I    |
| Terminals connected: SP & DP |                       | 2-3 2-1     |
| DP                           |                       | 5-6 4-5     |

\* Function 4: SP in DP case - see diagram at end of section.

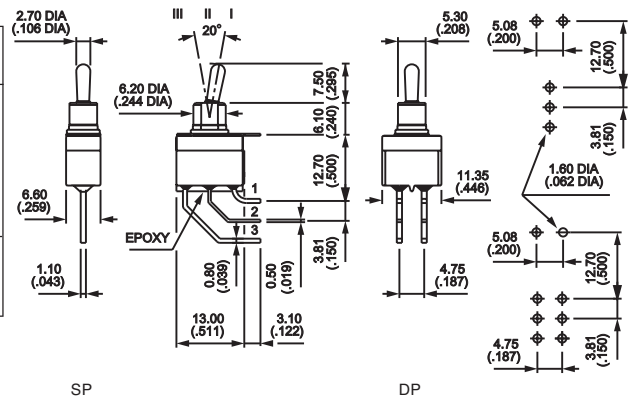


## Vertical right angle terminals - gold plated brass contacts



| SINGLE POLE MODEL NO.        | DOUBLE POLE MODEL NO. | CIRCUIT     |
|------------------------------|-----------------------|-------------|
| SWW236CD7                    | SWW246CD7             | ON - ON     |
| SWW239CD7                    | SWW249CD7             | ON OFF ON   |
| SWW237CD7                    | SWW247CD7             | MOM OFF MOM |
| SWW238CD7                    | SWW248CD7             | ON OFF MOM  |
| SWW232CD7                    | SWW242CD7             | ON - MOM    |
| -                            | SWW244THCD7*          | ON ON ON    |
| Handle position (see dwg.):  |                       | III II I    |
| Terminals connected: SP & DP |                       | 2-3 2-1     |
| DP                           |                       | 5-6 4-5     |

\* Function 4: SP in DP case - see diagram at end of section.

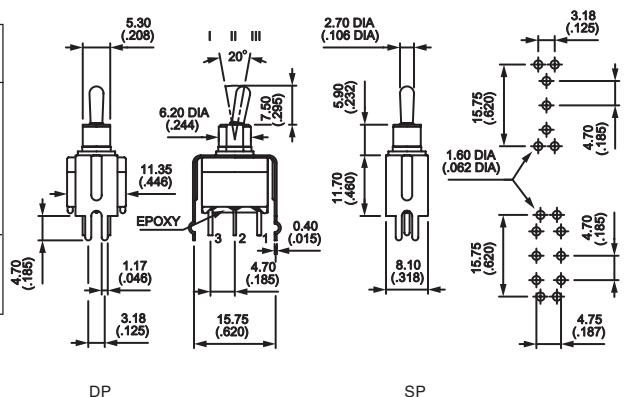


## Straight p.c. terminals - mounting bracket - gold plated brass contacts



| SINGLE POLE MODEL NO.        | DOUBLE POLE MODEL NO. | CIRCUIT     |
|------------------------------|-----------------------|-------------|
| SY236CD7                     | SY246CD7              | ON - ON     |
| SY239CD7                     | SY249CD7              | ON OFF ON   |
| SY237CD7                     | SY247CD7              | MOM OFF MOM |
| SY238CD7                     | SY248CD7              | ON OFF MOM  |
| SY232CD7                     | SY242CD7              | ON - MOM    |
| -                            | SY244THCD7*           | ON ON ON    |
| Handle position (see dwg.):  |                       | III II I    |
| Terminals connected: SP & DP |                       | 2-3 2-1     |
| DP                           |                       | 5-6 4-5     |

\* Function 4: SP in DP case - see diagram at end of section.



# S SERIES - WASHABLE MINIATURE TOGGLE SWITCHES, P.C. MOUNTING

**Additional ordering information:** Commonly ordered models are shown above with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

## 'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for **Model Structure**, then add **Options** selections for complete model number. Allowable options are shown below each respective box. Note: 'NONE' indicates box may be left empty.

### Model Structure:

| Series | Terminals                    | Bushing & terminals                                      | Number of poles                | Electrical functions                                      |
|--------|------------------------------|----------------------------------------------------------|--------------------------------|-----------------------------------------------------------|
| S      |                              |                                                          |                                |                                                           |
| W      | horizontal<br>rt. angle mtg. | 2 Terminal spacing<br>.185" (4,7mm) or<br>.150" (3,81mm) | 3 Single pole<br>4 Double pole | 6 ON - ON<br>9 ON OFF ON<br>7 MOM OFF MOM<br>8 ON OFF MOM |
| W W    | vertical<br>rt. angle mtg.   | 0 Terminal spacing<br>.200" (5,08mm)<br>(SY & SW models) |                                | 2 ON - MOM<br>4 T H ON ON ON                              |
| Y      | Bracket mtg.                 | All models have plain bushing                            |                                |                                                           |

### Options:

| Contact materials       | Actuators                                          | Agency recognition                        | Special options                                                                          |
|-------------------------|----------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------|
| A Silver                | 7 Short                                            | (NONE)                                    | (NONE)                                                                                   |
| A D Silver, gold plated | 1 3 Long                                           | U L                                       | F Tin plated terminals                                                                   |
| C D Brass, gold plated  | <b>Insulated actuators:</b><br>1 1 Long<br>8 Short | C E C C Consult factory for availability. | X 6 0 1 Silver plated brass contacts<br>X 6 9 6 Longer bushing (for insulated actuators) |

Examples of completely specified model numbers:  
**SW236CD7, SW244THAD11ULX696**

Although most combinations of options are available, some may result in incompatibilities. Consult factory if there is any question.

## OPTION DRAWINGS

### ACTUATORS

| CHROME PLATED BRASS      |                       | INSULATED                                                                                                                                          |                       |
|--------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| <p><b>7 Standard</b></p> | <p><b>13 Long</b></p> | <p>Protects against electrostatic discharges (ESD) up to 12 KV.<br/>Color: black Note: must be ordered with option X696.</p> <p><b>8 Short</b></p> | <p><b>11 Long</b></p> |

### SPECIAL OPTIONS

- F** Tin plated terminals.
- X601** Silver plated brass contacts. Lower rating. Minimum quantity: 5000 pcs.
- X696** Longer bushing - .295" (7.5mm). Specify for actuators **8** and **11**.

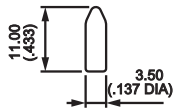
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

# S SERIES - WASHABLE MINIATURE TOGGLE SWITCHES, P.C. MOUNTING

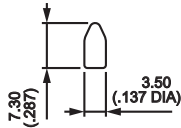
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## OPTION DRAWINGS & MISCELLANEOUS

**INSULATING CAPS** (replace '0' in part numbers with color code)



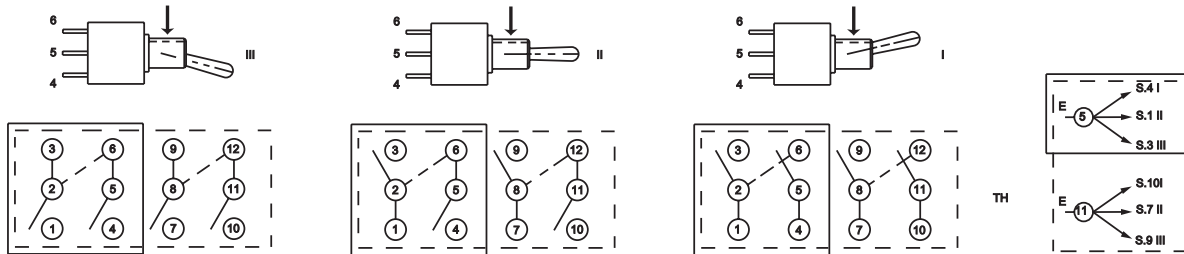
**U270** For actuator 13



**U1710** For actuator 7

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

**WIRING for function 4 switch**



Above diagrams are viewed from bottom of switch.

Equivalent to single pole 3 throw switch. Dotted lines between terminals 2 & 6 and 8 & 12 indicate external jumpers to be added by customer

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