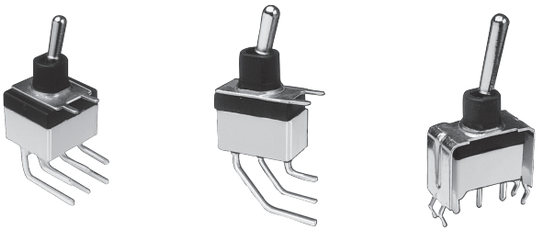
S SERIES - WASHABLE MINIATURE TOGGLE SWITCHES, P.C. MOUNTING



FEATURES

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

SPECIFICATIONS

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

MATERIALS

Contacts & Terminals:	Gold plated brass, silver or gold plated silver
Actuator:	Chrome plated brass
Bracket:	Tin plated steel
Case:	UL94V-0 - Polyamide, glass filled or PES
Terminal seal:	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:

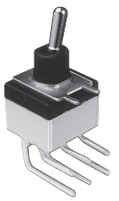
a. Completely specified switch models
b. 'build your own switch' order format
c. Option drawings & special options
d. Miscellaneous

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

A16-A19 16 09:09:2000, 4:34 PM

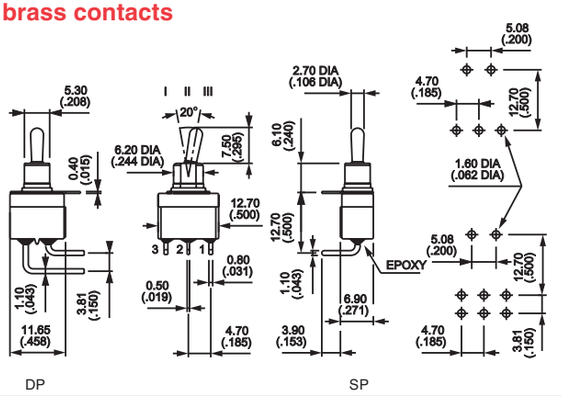
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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



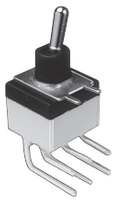
SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT		
SW236CD7	SW246CD7	ON	-	ON
SW239CD7	SW249CD7	ON	OFF	ON
SW237CD7	SW247CD7	MOM	OFF	MOM
SW238CD7	SW248CD7	ON	OFF	MOM
SW232CD7	SW242CD7	ON	-	MOM
-	SW244THCD7*	ON	ON	ON
Handle position (see dwg.) :		III	II	I
Terminals connected:	SP & DP	2-3		2-1
	DP	5-6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

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



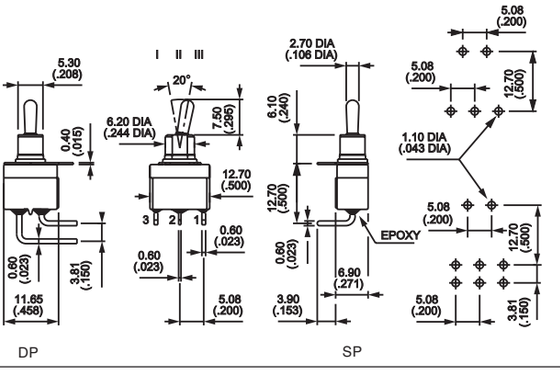
DP SP

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



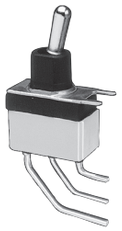
SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT		
SW036CD7	SW046CD7	ON	-	ON
SW039CD7	SW049CD7	ON	OFF	ON
SW037CD7	SW047CD7	MOM	OFF	MOM
SW038CD7	SW048CD7	ON	OFF	MOM
SW032CD7	SW042CD7	ON	-	MOM
-	SW044THCD7*	ON	ON	ON
Handle position (see dwg.) :		III	II	I
Terminals connected:	SP & DP	2-3		2-1
	DP	5-6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

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



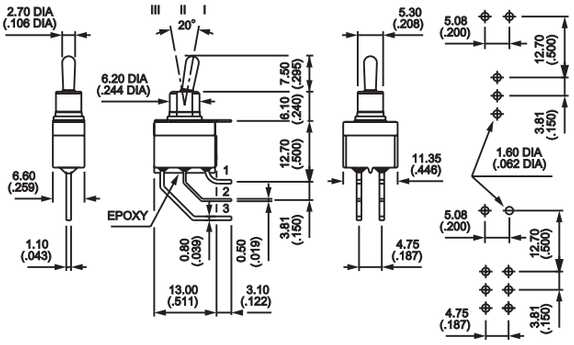
DP SP

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.



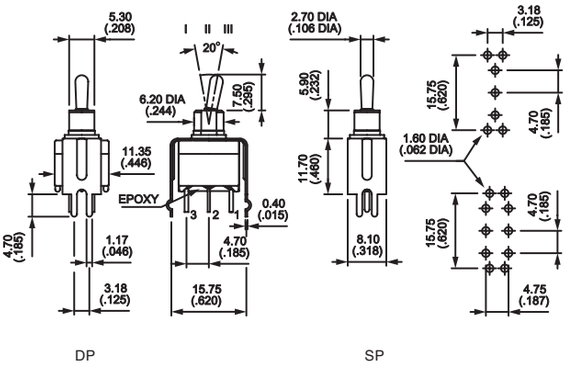
SP DP

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.



DP SP

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 S

Terminals

- **W** horizontal rt. angle mtg.
- **W W** vertical rt. angle mtg.
- **Y** Bracket mtg.

Bushing & terminals

- **2** Terminal spacing .185" (4,7mm) or .150" (3,81mm)
- **0** Terminal spacing .200" (5,08mm) (SY & SW models)

All models have plain bushing

Number of poles

- **3** Single pole
- **4** Double pole

Electrical functions

6	ON	-	ON
9	ON	OFF	ON
7	MOM	OFF	MOM
8	ON	OFF	MOM
2	ON	-	MOM
4 T H	ON	ON	ON

Options:

Contact materials

- **A** Silver
- **A D** Silver, gold plated
- **C D** Brass, gold plated

Actuators

- **7** Short (standard)
- **1 3** Long

Insulated actuators:

- **1 1** Long
- **8** Short

Agency recognition

- **(NONE)**
- **U L**
- **C E C C**

Consult factory for availability.

Special options

- **(NONE)**
- **F** Tin plated terminals
- **X 6 0 1** Silver plated brass contacts
- **X 6 9 6** Longer bushing (for insulated actuators)

Examples of completely specified model numbers:

SW236CD7, SW244THAD11ULX696

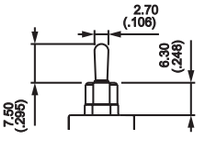
Although most combinations of options are available, some may result in incompatibilities. Consult factory if there is any question.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

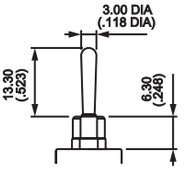
OPTION DRAWINGS

ACTUATORS

CHROME PLATED BRASS



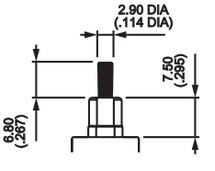
7 Standard



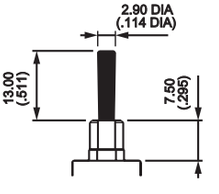
13 Long

INSULATED

Protects against electrostatic discharges (ESD) up to 12 KV.
Color: black Note: must be ordered with option **X696.**



8 Short



11 Long

SPECIAL OPTIONS

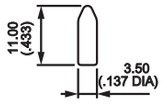
- **F** Tin plated terminals.
- **X601** Silver plated brass contacts. Lower rating. Minimum quantity: 5000 pcs.
- **X696** Longer bushing - .295" (7.5mm). Specify for actuators **8** and **11**.

 APEM, PO BOX 8288, HAVERHILL, MA USA 01835-0788 TOLL FREE: (877) 246-7890 FAX: (781) 245-4531 E-mail: info@apem.com

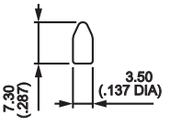
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

OPTION DRAWINGS & MISCELLANEOUS

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



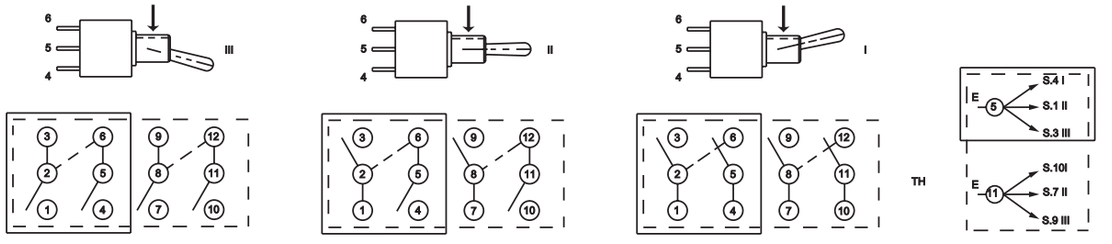
U270 For actuator **13**



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