

# 5000 SERIES

## TOGGLE SWITCHES

### Distinctive features

#### THE WIDEST RANGE IN MINIATURE SWITCHES

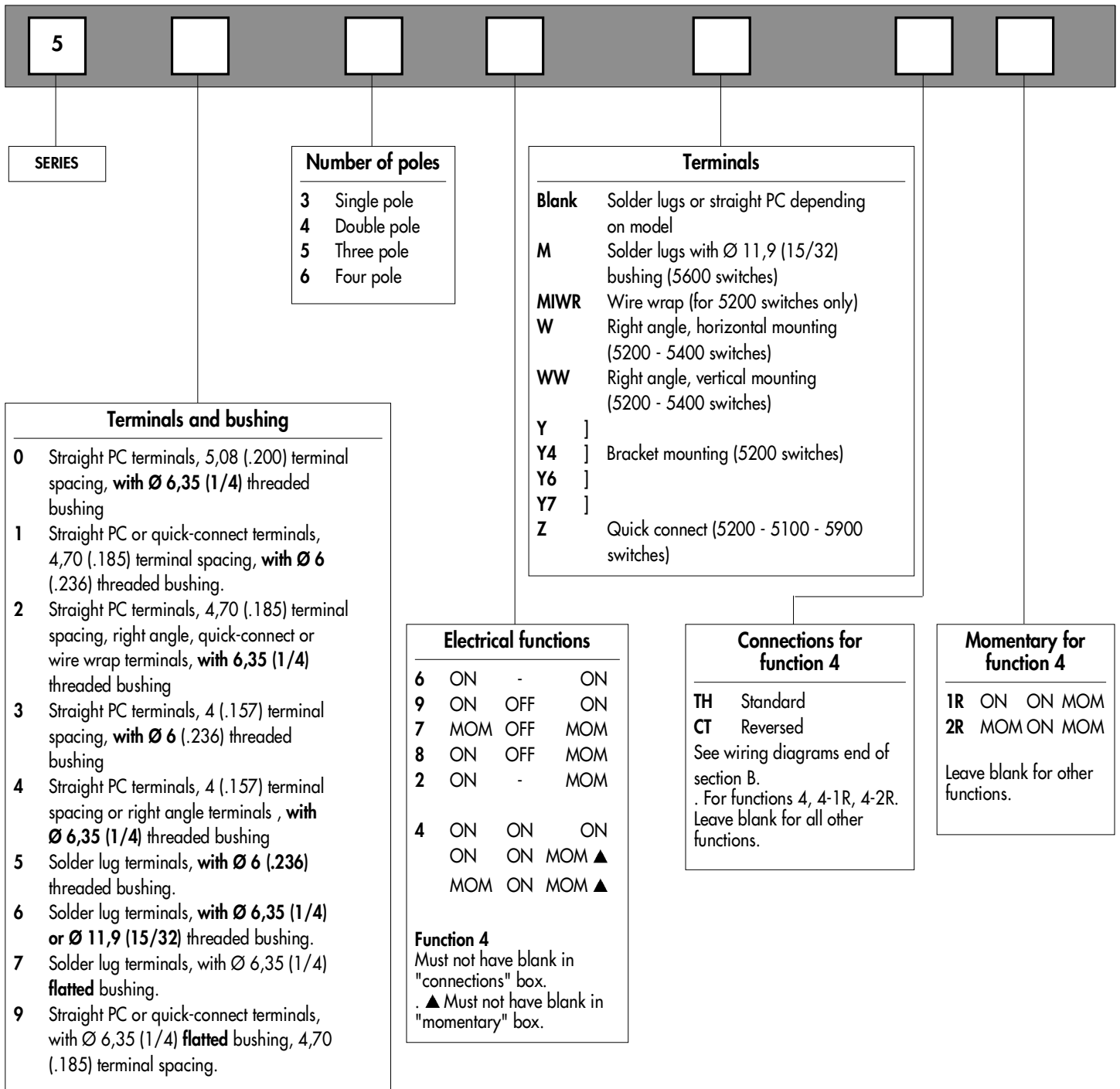
- 17** 17 actuators including toggles, paddle levers and locking levers in different lengths.
- 5** 5 contact materials from dry circuit to 6A 125VAC and high inrush up to 120A 2 ms.
- 8** 8 functions including maintained and momentary versions.
- 4** 1 to 4 pole configurations.
- 12** 12 terminal types including 9 for PC board mounting. Other types include quick-connect and wire-wrap.
- 6** 6 bushing styles from 6 (.236) plain to 11,9 (15/32) threaded.
- 3** 3 types of finish including military black.
- 9** 4 approvals (UL - CSA - VDE - CECC) and 5 listings.
- 4** 4 types of sealing for terminal or front panel requirements.
- +** Numerous accessories available for actuator and bushing options.

# 5000 SERIES TOGGLE SWITCHES

## Overview

M O D E L  
S T R U C T U R E

B



### ABOUT THIS SERIES

On the following pages, you will find successively :

- specifications
- model structure of switches with threaded bushing
- model structure of switches with plain bushing
- options in the same order as in above chart

**Dimensions** : first dimensions are in mm while inches are shown as bracketted numbers.



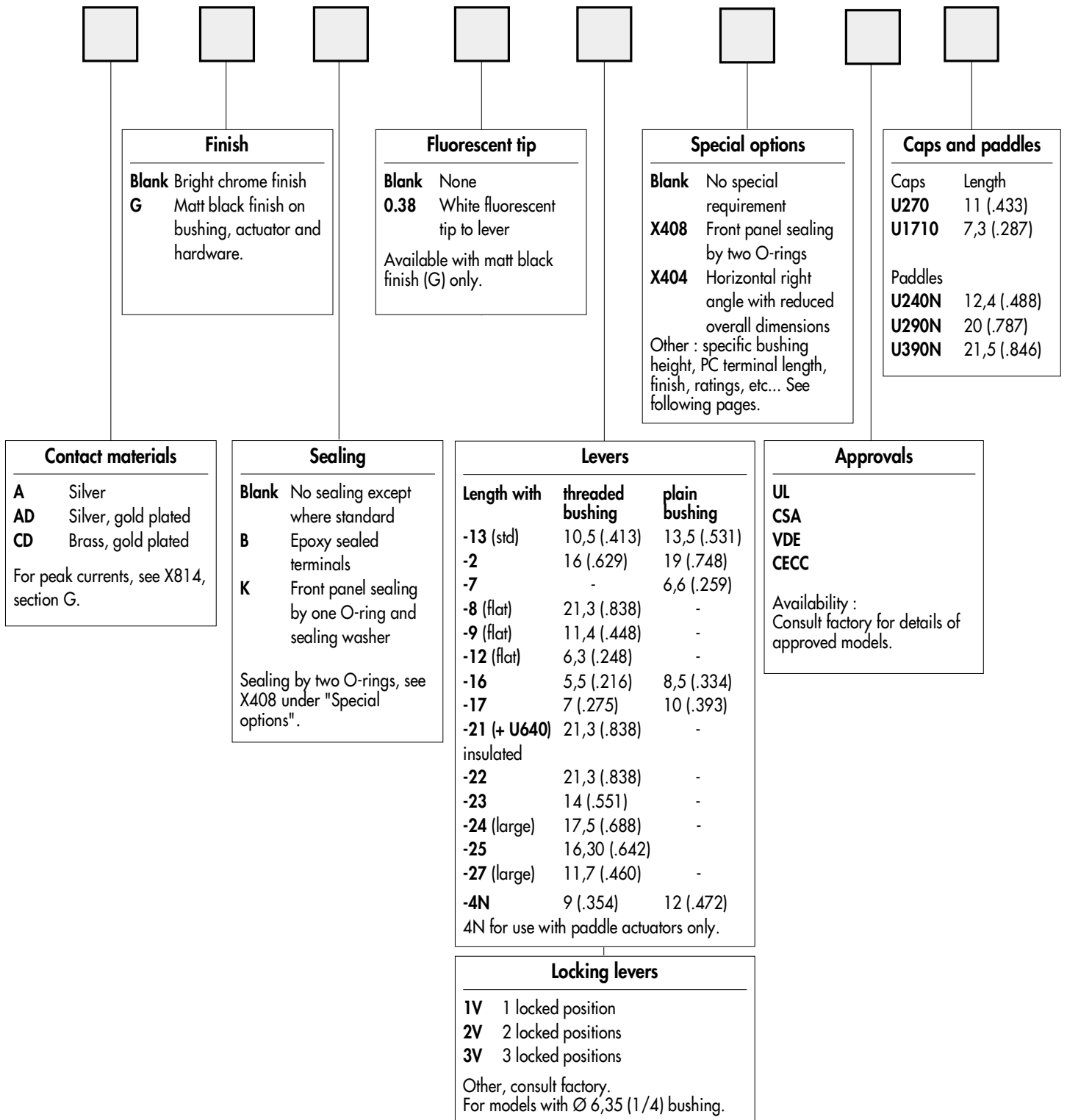
**NOTICE** : please note that not all combinations of above numbers are available.  
Refer to the following pages for further information.

# 5000 SERIES TOGGLE SWITCHES

## Overview

OPTIONS

B



**Sealing boots and caps** are available. They are presented in section N.



**Mounting accessories** : standard hardware supplied with all models with Ø 6,35 (1/4) or Ø 6 (.236) threaded bushing : 2 hex nuts 8 mm (.314) across flats, 1 locking ring and 1 lockwasher. Standard and special hardware available are presented in section N.



**Packaging unit** : 25 pieces or 50 pieces depending on models.

# 5000 SERIES TOGGLE SWITCHES Specifications

**B**

## ELECTRICAL SPECIFICATIONS

- Current/voltage rating with resistive load :

Contact	Maximum	Minimum	Level*
Silver (A)	3A 250VAC - 6A 125VAC - 4A 30VDC	50mA 10VDC	III and IV
Silver, gold plated (AD)	3A 250VAC - 6A 125 VAC - 4A 30VDC Gold plating withstands up to 100mA 30VDC	10mA 50mV 10µA 5V	I to IV
Brass, gold plated (CD)	0,4 VA at 20VAC or DC	10mA 50mV 10µA 5V	I and II

- For inductive, lamp or capacitive load, consult factory.
- Initial contact resistance : 10 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength :
  - 1.000 Vrms 50 Hz min. between terminals
  - 1.500 Vrms 50 Hz min. between poles
  - 1.500 Vrms 50 Hz min. between terminals and frame
- Contact bounce : 2 ms max.
- Electrical life at full load :
  - 50.000 cycles for single and double pole
  - 40.000 cycles for 3 pole
  - 30.000 cycles for 4 pole
- Low level or mechanical life : 100.000 cycles

\* For details, see general information on introduction pages.

### MATERIALS

- Case : diallylphthalate (DAP) or high temperature plastic material (UL94-V0)
- Actuator : brass, chrome plated
- Bushing : brass, nickel plated
- Housing : stainless steel or steel tin plated
- Contacts
  - A** : silver
  - AD** : silver, gold plated
  - CD** : brass, gold plated
  - X814** : for peak currents, see section G.
- Terminal seal : epoxy
- Paddles : UL94HB polyamide
- Lever caps : vinyl

### GENERAL SPECIFICATIONS

- Torque : 1,25 Nm (.922 Ft.lb) max. applied to nut
- Panel thickness : 2,5 mm (.098) with 2 nuts - 4 mm (.157) with 1 nut
- Operating temperature : -40°C to +85°C

### AGENCY APPROVALS/PREFERENTIAL LISTS



EN 61058-1



CECC 96201-007

For VDE, refer to 55000 series.

**QPL** (Europe only)  
**MUAHAG**  
**NATO**

**Availability** : consult factory for details of approved models.

**Marking** : to order switches marked UL, CSA or CECC, complete appropriate box of ordering format.  
Preferential lists do not appear on the switches.

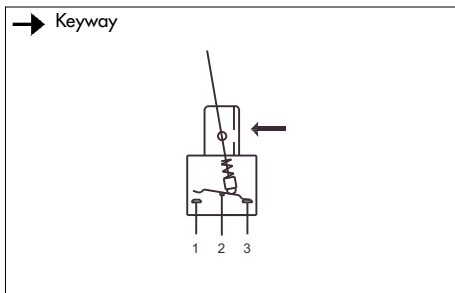
# 5000 SERIES

## TOGGLE SWITCHES - SOLDER LUG TERMINALS

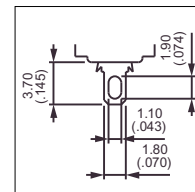
### Threaded bushing Ø 6,35 (1/4) : 5600

MODEL  
STRUCTURE

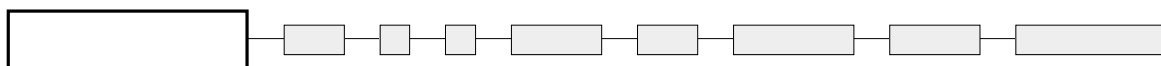
**B**



- 1, 2, 3 and 4 pole configurations



**MODEL  
STRUCTURE**



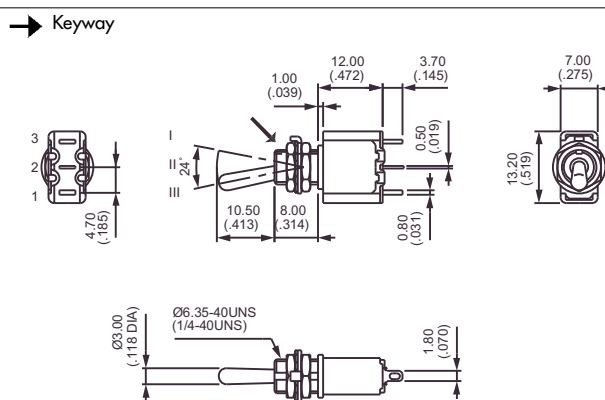
Shown with standard lever (-13)

### Single pole



**5636**  
**5639**  
**5637**  
**5638**  
**5632**

III	II	I
2-3		1-2
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

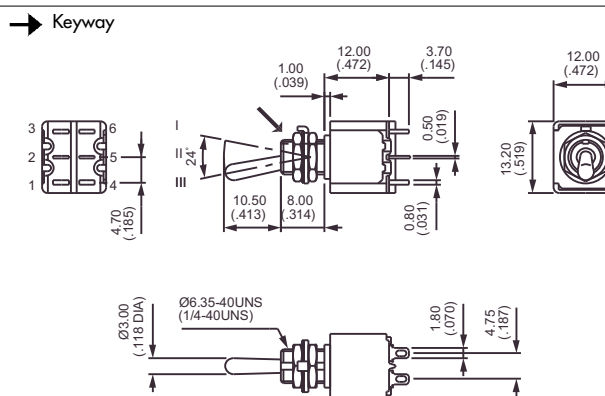


### Double pole



**5646**  
**5649**  
**5647**  
**5648**  
**5642**  
**5644\***  
**5644 1R\***  
**5644 2R\***

III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



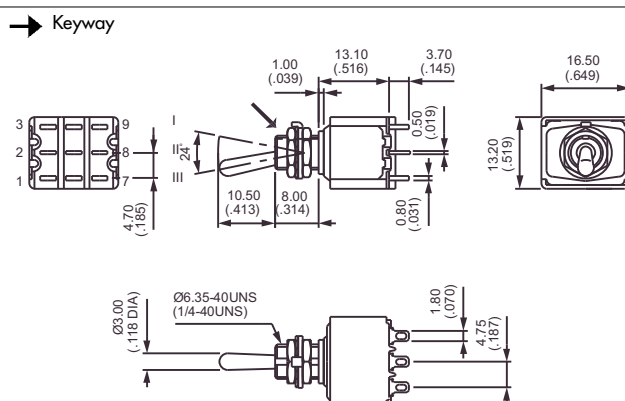
\* Function 4 : SP in DP case - specify CT or TH connections, see end of section B.

### Three pole



**5656**  
**5659**  
**5657**  
**5658**  
**5652**

III	II	I
2-3		1-2
5-6		4-5
8-9		7-8
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM



# 5000 SERIES

## TOGGLE SWITCHES - SOLDER LUG TERMINALS

### Threaded bushing $\varnothing 6,35$ (1/4) : 5600

M O D E L  
S T R U C T U R E

**B**

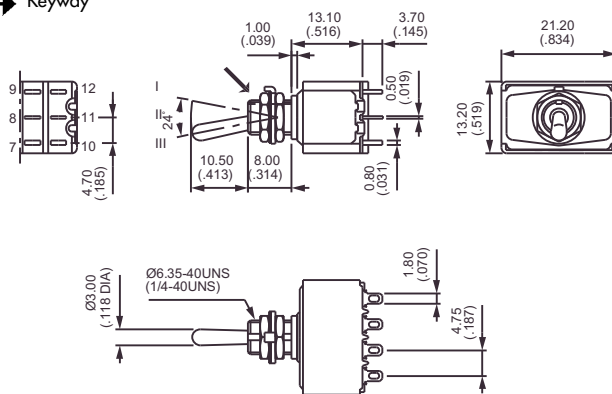
#### Four pole



5666  
5669  
5667  
5668  
5662  
5664\*  
5664 1R\*  
5664 2R\*

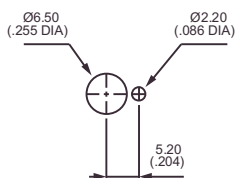
III	II	I
2-3		1-2
5-6		4-5
8-9		7-8
11-12		10-11
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM

→ Keyway

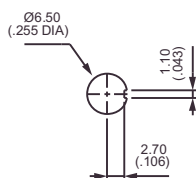


\*Function 4 : DP in 4P case - specify CT or TH connections, see end of section B.

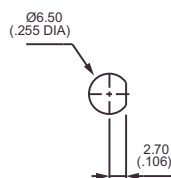
#### PANEL CUT-OUT



Standard



With K  
sealing option



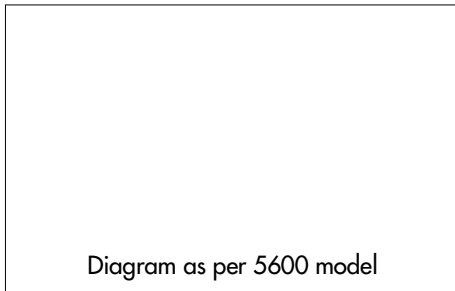
With X408  
sealing option

# 5000 SERIES

## TOGGLE SWITCHES - SOLDER LUG TERMINALS

MODEL  
STRUCTURE

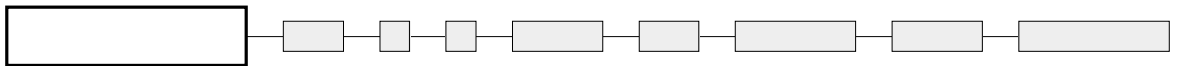
B



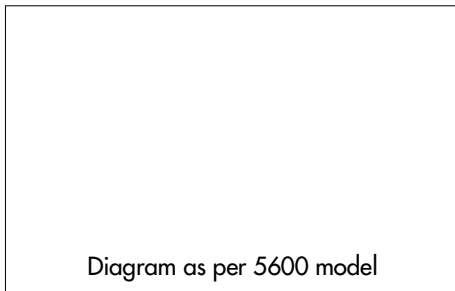
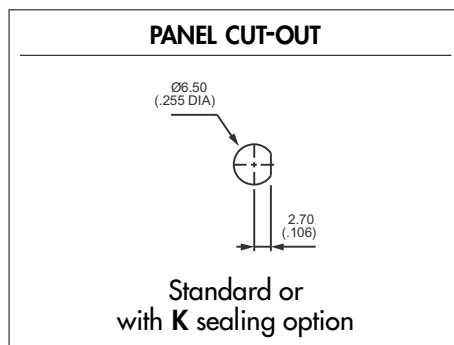
### 5700 models

- Flatted bushing  $\varnothing$  6,35 mm (1/4)
- 1, 2, 3 and 4 pole configurations

#### MODEL STRUCTURE



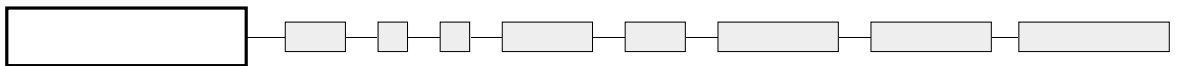
For model structure numbers, refer to 5600 models and replace 6 with 7.



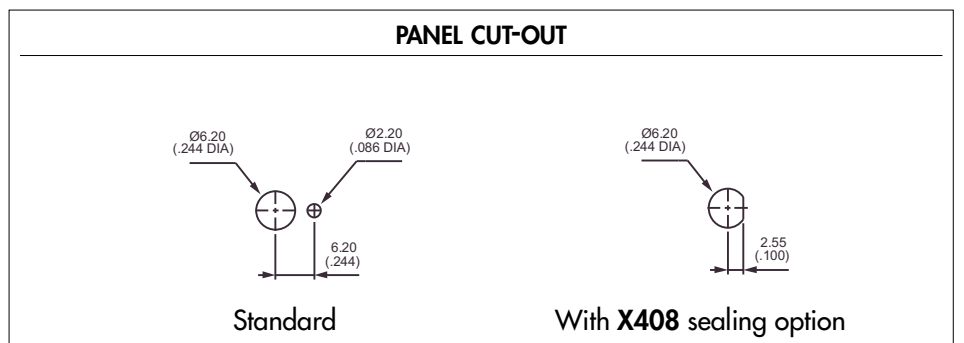
### 5500 models

- Threaded bushing  $\varnothing$  6 mm (.236)
- 1, 2, 3 and 4 pole configurations

#### MODEL STRUCTURE



For model structure numbers, refer to 5600 models and replace 6 with 5.



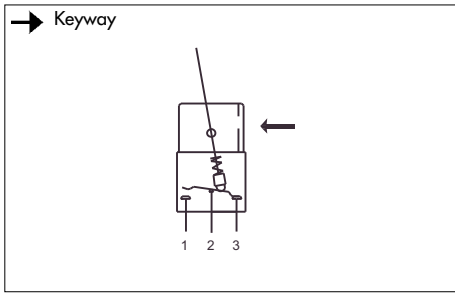
# 5000 SERIES

## TOGGLE SWITCHES - SOLDER LUG TERMINALS

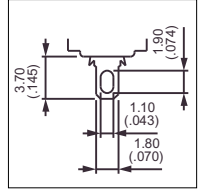
Threaded bushing  $\varnothing 11,9$  (15/32) : 5600M

MODEL  
STRUCTURE

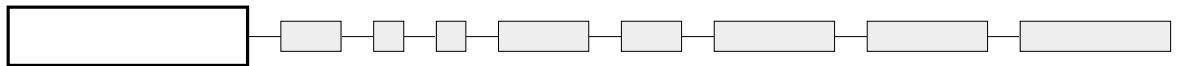
B



- 1, 2, 3 and 4 pole configurations
- Supplied with 2 hex nuts and 1 locking ring
- Panel thickness up to 6 mm (.236)



MODEL  
STRUCTURE



Shown with standard lever (-24)

### Single pole

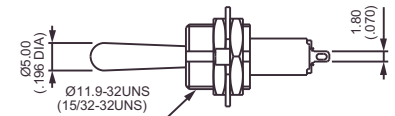
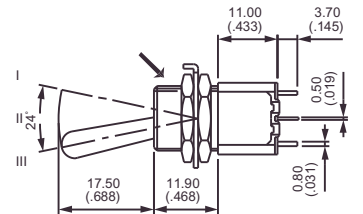
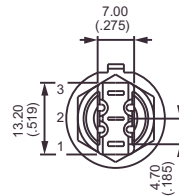


5636M  
5639M  
5637M  
5638M  
5632M

III	II	I
2-3		1-2

ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

→ Keyway



### Double pole

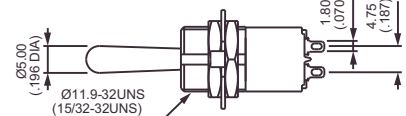
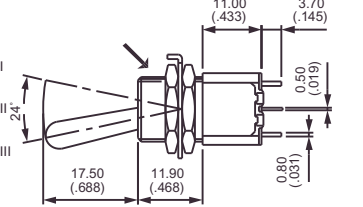
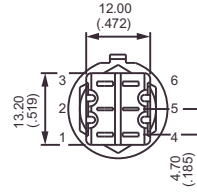


5646M  
5649M  
5647M  
5648M  
5642M  
5644M\*  
5644M 1R\*  
5644M 2R\*

III	II	I
2-3		1-2
5-6		4-5

ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM

→ Keyway



\* Function 4 : SP in DP case - specify CT or TH connections, see end of section

### Three pole

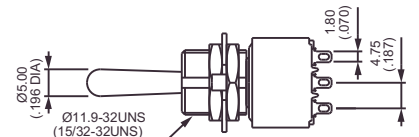
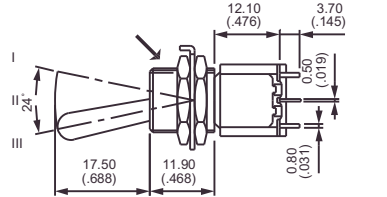
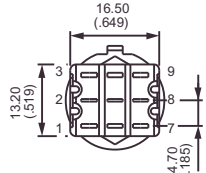


5656M  
5659M  
5657M  
5658M  
5652M

III	II	I
2-3		1-2
5-6		4-5
8-9		7-8

ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

→ Keyway





# 5000 SERIES


## TOGGLE SWITCHES - SOLDER LUG TERMINALS

### Threaded bushing $\varnothing 11,9$ (15/32) : 5600M

M O D E L  
S T R U C T U R E

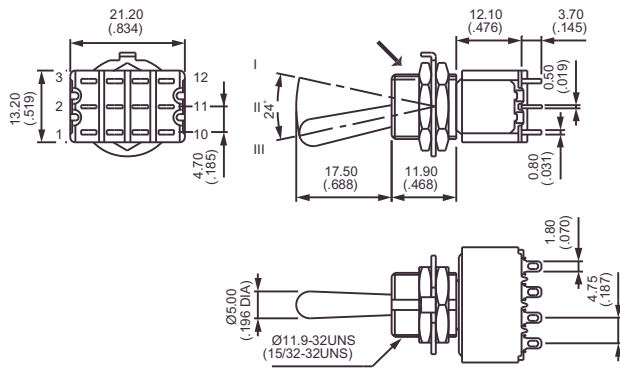
B

#### Four pole

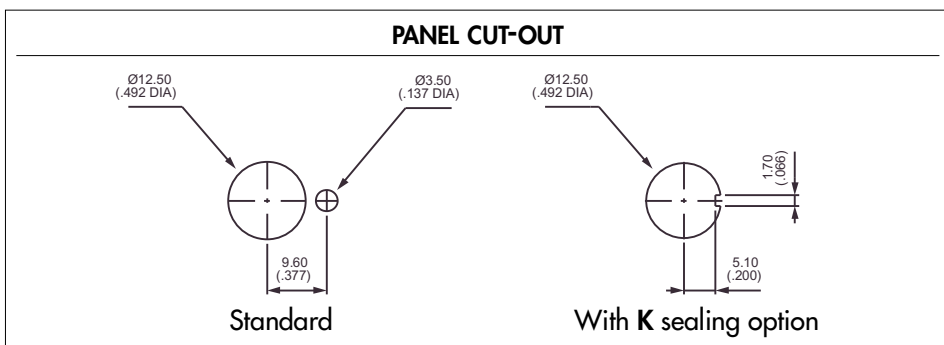


III	II	I
2-3	1-2	1-2
5-6	4-5	4-5
8-9	7-8	7-8
11-12	10-11	10-11
5666M	ON - ON	
5669M	ON OFF ON	
5667M	MOM OFF MOM	
5668M	ON OFF MOM	
5662M	ON - MOM	
5664M*	ON ON ON	
5664M 1R*	ON ON MOM	
5664M 2R*	MOM ON MOM	

→ Keyway



\*Function 4 : DP in 4P case - specify CT or TH connections, see end of section B.



OTHER : M bushing can be combined with other types such as : 5200, Z, MIWR... Consult factory.



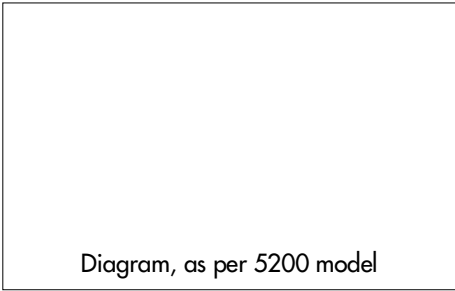


# 5000 SERIES

## TOGGLE SWITCHES - STRAIGHT PC TERMINALS



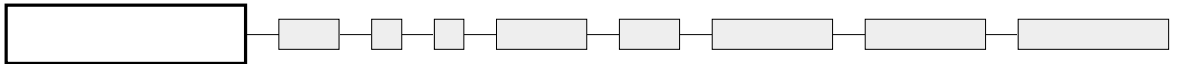
**B**



### 5400 models

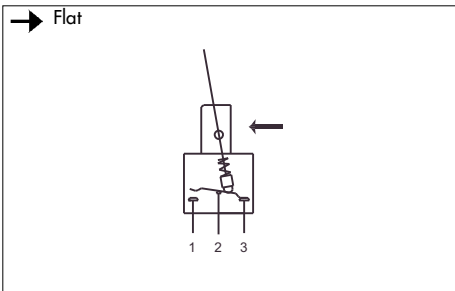
- Threaded bushing  $\varnothing$  6,35 mm (1/4)
- Terminal spacing 4 mm (.157)
- 1, 2, 3 and 4 pole configurations

#### MODEL STRUCTURE



For model structure numbers, refer to 5200 models and replace 2 with 4.

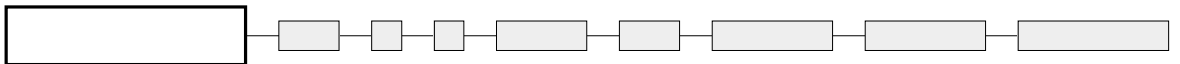
Panel cut-out, see 5200.



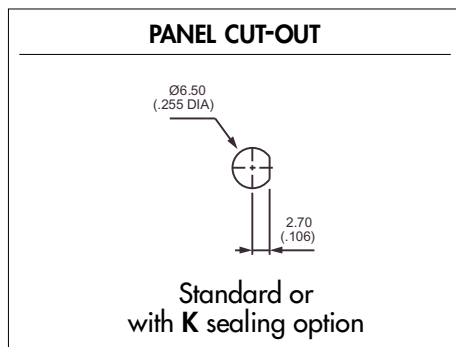
### 5900 models

- Flatted bushing  $\varnothing$  6,35 mm (1/4)
- Terminal spacing 4,7 mm (.185)
- 1, 2, 3 and 4 pole configurations

#### MODEL STRUCTURE



For model structure numbers, refer to 5200 models and replace 2 with 9.

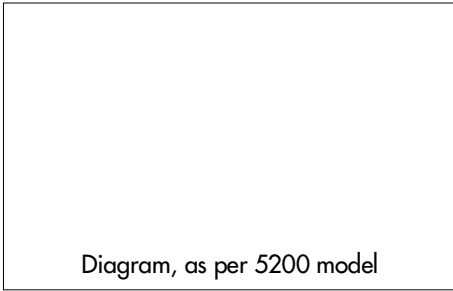


# 5000 SERIES

## TOGGLE SWITCHES - STRAIGHT PC TERMINALS

MODEL  
STRUCTURE

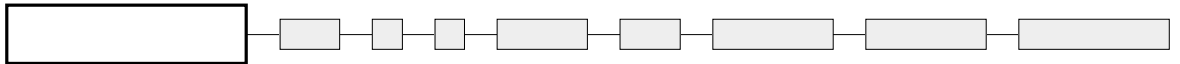
B



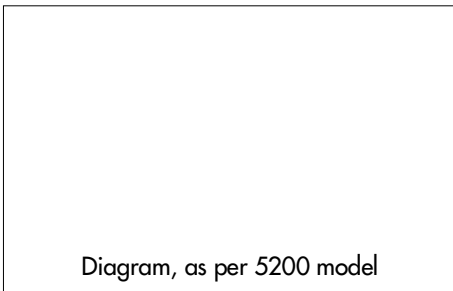
### 5100 models

- Threaded bushing  $\varnothing$  6 mm (.236)
- Terminal spacing 4,7 mm (.185)
- 1, 2, 3 and 4 pole configurations

#### MODEL STRUCTURE



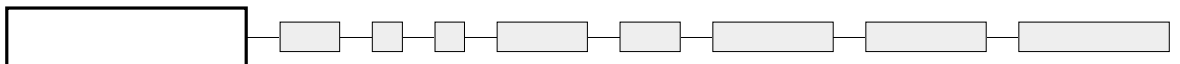
For model structure numbers, refer to 5200 models and replace 2 with 1.  
Panel cut-out, see below.



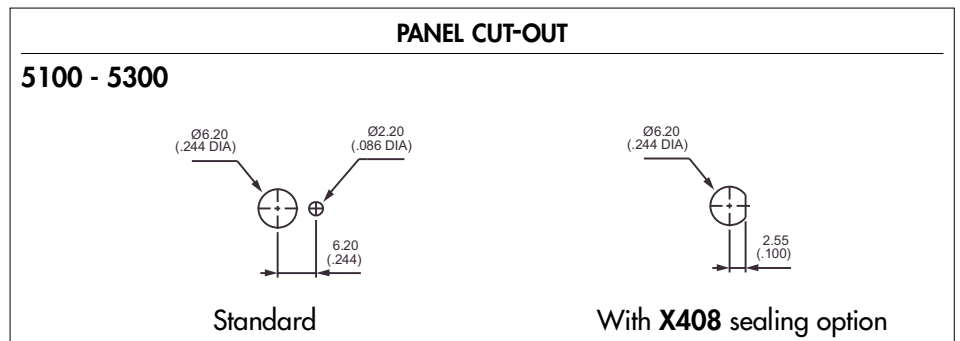
### 5300 models

- Threaded bushing  $\varnothing$  6 mm (.236)
- Terminal spacing 4 mm (.157)
- 1, 2, 3 and 4 pole configurations

#### MODEL STRUCTURE



For model structure numbers, refer to 5200 models and replace 2 with 3.



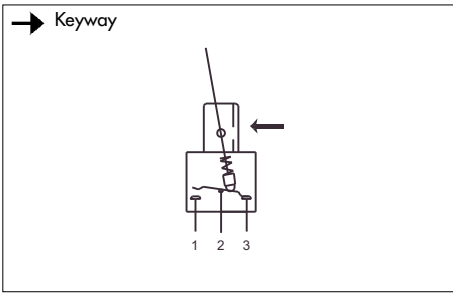
# 5000 SERIES

## TOGGLE SWITCHES - QUICK-CONNECT TERMINALS

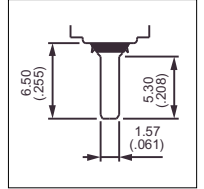
### Threaded bushing $\varnothing 6,35$ (1/4) : 5200Z

M O D E L  
S T R U C T U R E

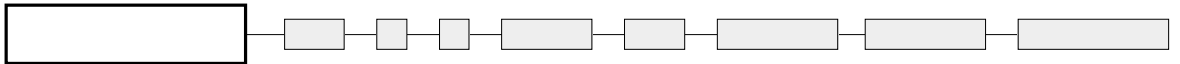
**B**



- Terminal spacing 4,7 mm (.185)
- Epoxy sealed terminals standard
- 1 and 2 pole configurations



**MODEL  
STRUCTURE**



Shown with standard lever (-13)

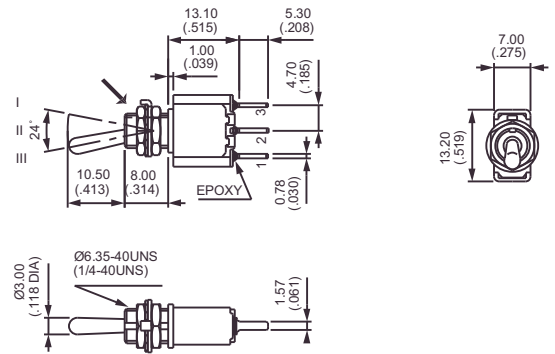
**Single pole**



**5236Z  
5239Z  
5237Z  
5238Z  
5232Z**

III	II	I
2-3		1-2
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

→ Keyway



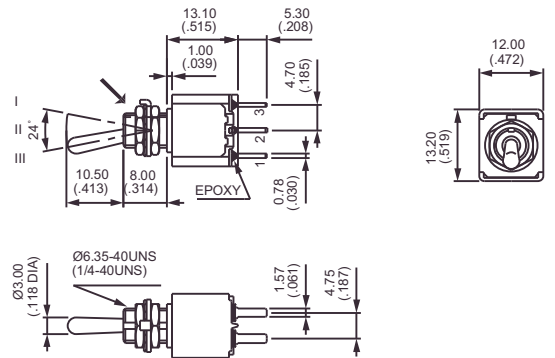
**Double pole**



**5246Z  
5249Z  
5247Z  
5248Z  
5242Z  
5244Z\*  
5244Z 1R\*  
5244Z 2R\***

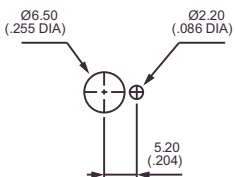
III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM

→ Keyway

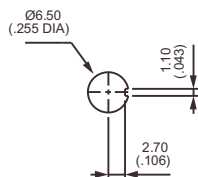


\*Function 4 : SP in DP case - specify CT or TH connections, see end of section B.

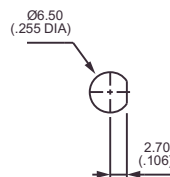
**PANEL CUT-OUT**



Standard



With **K**  
sealing option



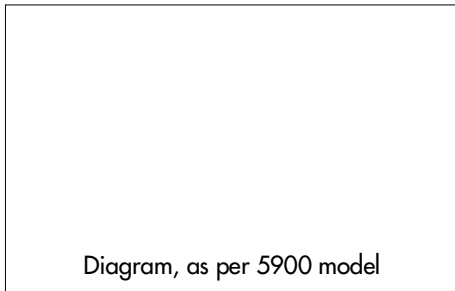
With **X408**  
sealing option

# 5000 SERIES

## TOGGLE SWITCHES - QUICK-CONNECT TERMINALS

MODEL  
STRUCTURE

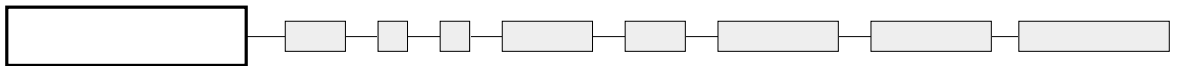
B



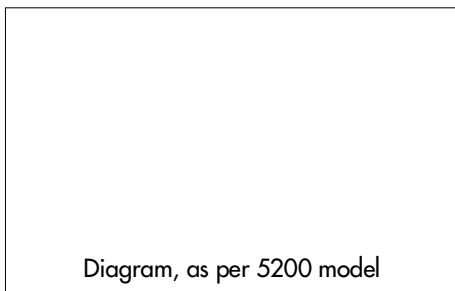
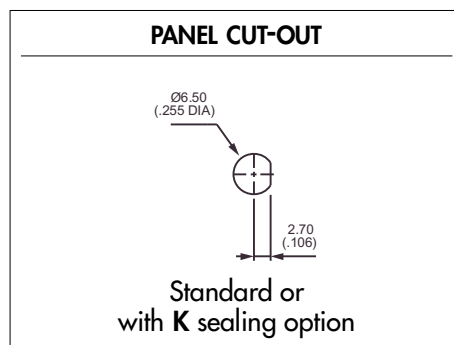
### 5900Z models

- Flatted bushing  $\varnothing$  6,35 mm (1/4)
- Terminal spacing 4,7 mm (.185)
- Epoxy sealed terminals standard
- 1 and 2 pole configurations

#### MODEL STRUCTURE



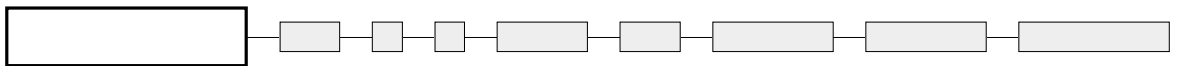
For model structure numbers, refer to 5200Z models and replace 2 with 9.



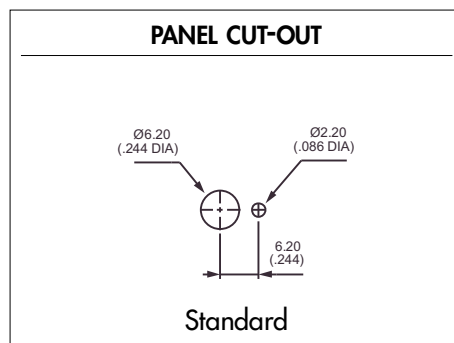
### 5100Z models

- Threaded bushing  $\varnothing$  6 mm (.236)
- Terminal spacing 4,7 mm (.185)
- Epoxy sealed terminals standard
- 1 and 2 pole configurations

#### MODEL STRUCTURE



For model structure numbers, refer to 5200Z models and replace 2 with 1.

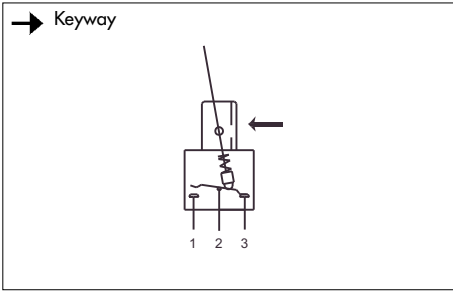


# 5000 SERIES

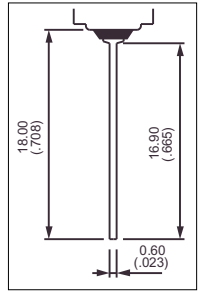
## TOGGLE SWITCHES - WIRE-WRAP TERMINALS Threaded bushing $\varnothing 6,35$ (1/4) : 5200MIWR

M O D E L  
S T R U C T U R E

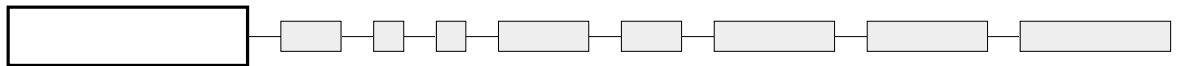
B



- Terminal spacing 5,08 mm (.200)
- Epoxy sealed terminals standard
- 1 and 2 pole configurations
- Can also be used as extended PCB terminals



MODEL  
STRUCTURE



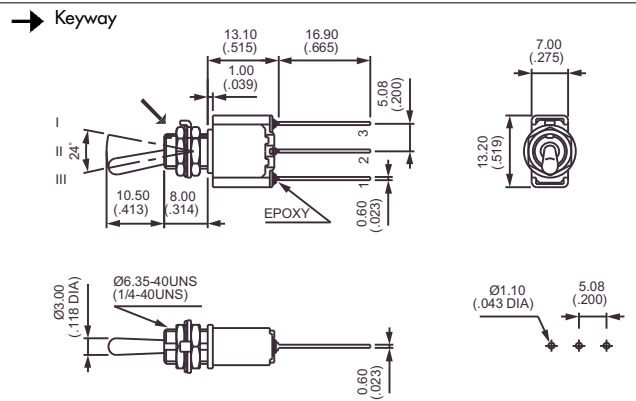
Shown with standard lever (-13)

### Terminal spacing 5,08 (.200) - single pole



5236MIWR  
5239MIWR  
5237MIWR  
5238MIWR  
5232MIWR

III	II	I
2-3		1-2
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

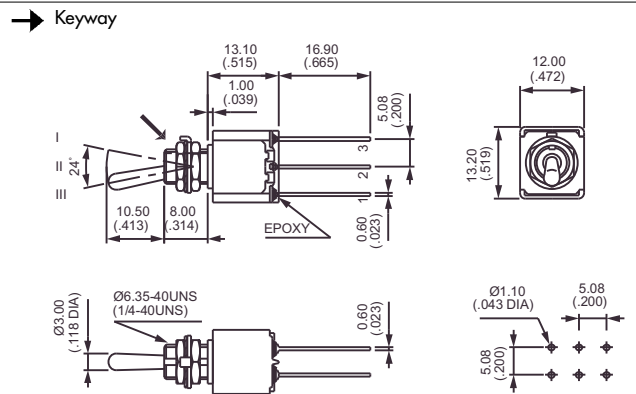


### Terminal spacing 5,08 (.200) - double pole



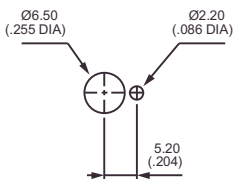
5246MIWR  
5249MIWR  
5247MIWR  
5248MIWR  
5242MIWR  
5244 MIWR\*  
5244 1R MIWR\*  
5244 2R MIWR\*

III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM

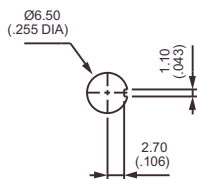


\*Function 4 : SP in DP case - specify CT or TH connections, see end of section B.

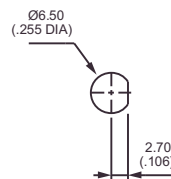
### PANEL CUT-OUT



Standard



With K  
sealing option



With X408  
sealing option



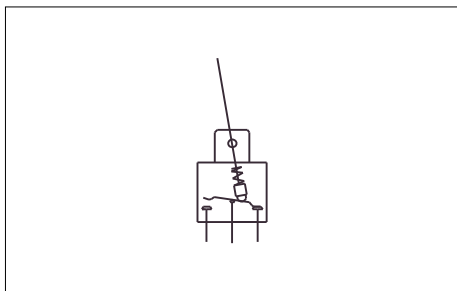
# 5000 SERIES

## TOGGLE SWITCHES - PLAIN BUSHING

### Right angle terminals - horizontal : 5200W

MODEL  
STRUCTURE

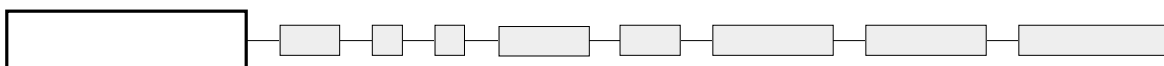
B



- Terminal spacing 4,7 mm (.185)
- 1, 2 and 3 pole configurations

Special switch **5200WX404** with reduced overall dimensions is presented under "Special options".

MODEL  
STRUCTURE



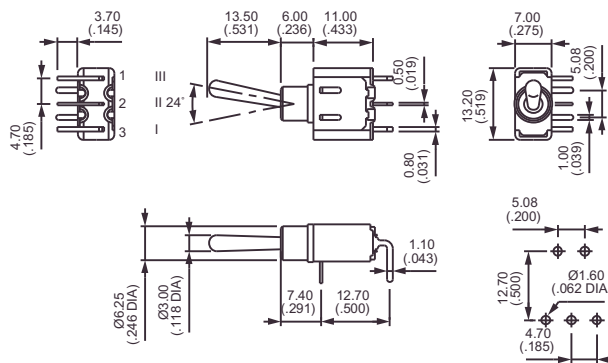
Shown with standard lever (-13)

### Single pole



5236W  
5239W  
5237W  
5238W  
5232W

III	II	I
2-3		1-2
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

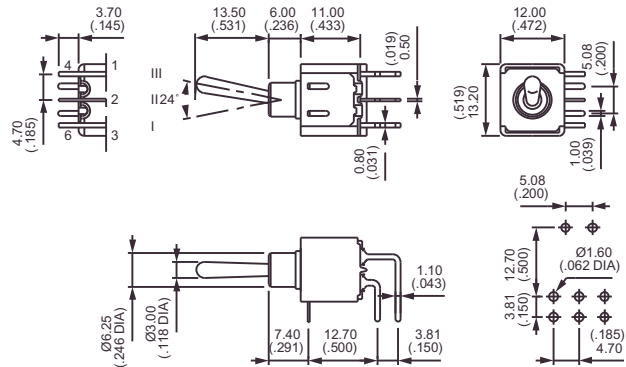


### Double pole



5246W  
5249W  
5247W  
5248W  
5242W  
5244W\*  
5244W 1R\*  
5244W 2R\*

III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



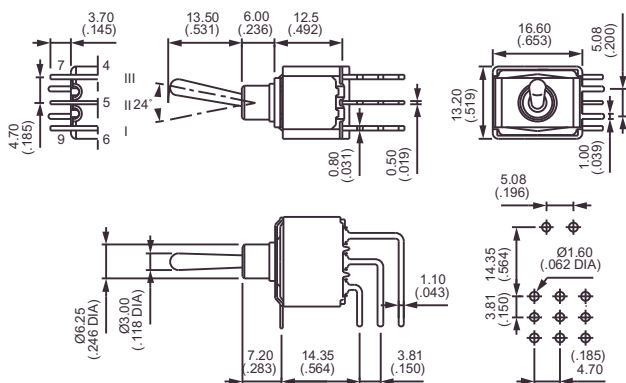
\*Function 4 : SP in DP case - specify CT or TH connections, see end of section B.

### Three pole



5256W  
5259W  
5257W  
5258W  
5252W

III	II	I
2-3		1-2
5-6		4-5
8-9		7-8
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM



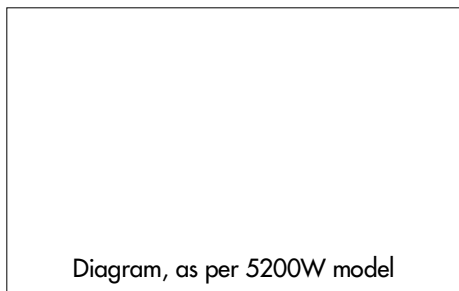
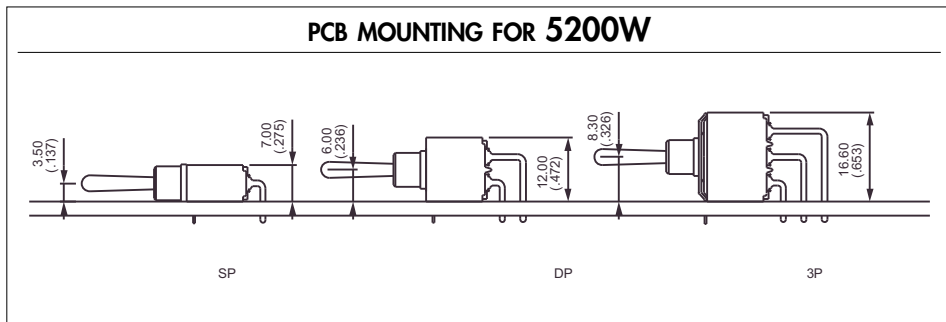
# 5000 SERIES

## TOGGLE SWITCHES - PLAIN BUSHING

Right angle terminals - horizontal : 5400W



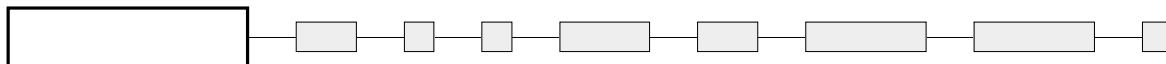
B



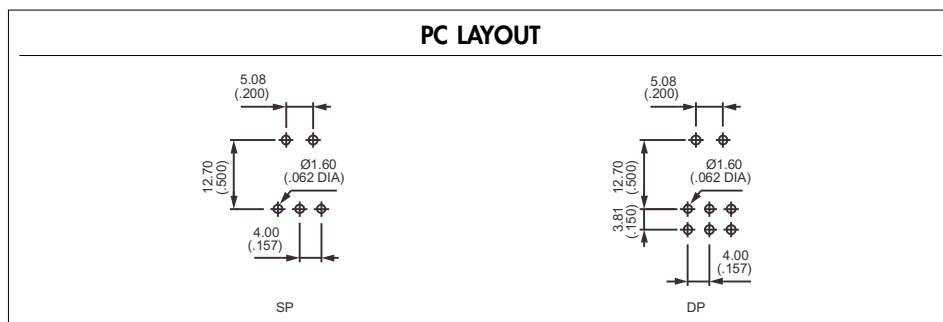
### 5400W models

- Terminal spacing 4 mm (.157)
- 1 and 2 pole configurations

### MODEL STRUCTURE



For model structure numbers, refer to **5200W** single and double pole and replace 2 with 4.



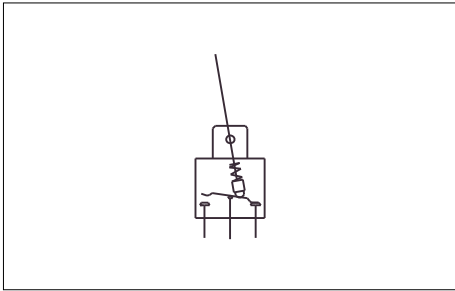
# 5000 SERIES

## TOGGLE SWITCHES - PLAIN BUSHING

### Right angle terminals - vertical : 5200WW

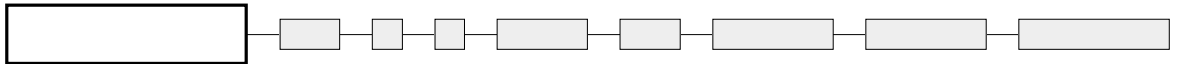
MODEL  
STRUCTURE

B



- Pin spacing 3,81 mm (.150)
- 1, 2, 3 and 4 pole configurations

**MODEL  
STRUCTURE**



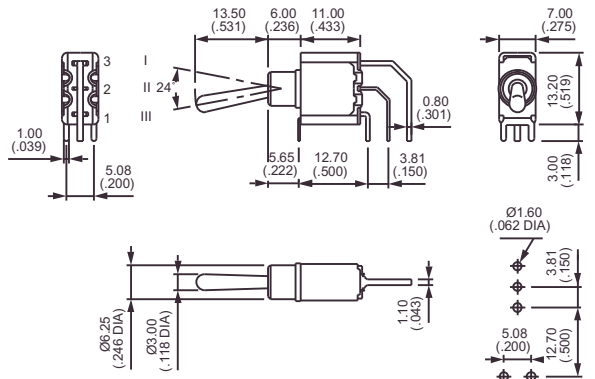
Shown with standard lever (-13)

### Single pole



**5236WW**  
**5239WW**  
**5237WW**  
**5238WW\*\***  
**5232WW\*\***

III	II	I
2-3		1-2
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

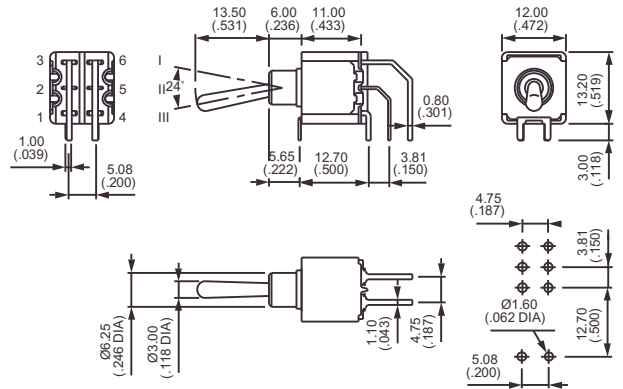


### Double pole



**5246WW**  
**5249WW**  
**5247WW**  
**5248WW\*\***  
**5242WW\*\***  
**5244WW\***  
**5244WW 1R\***  
**5244WW 2R\***

III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM

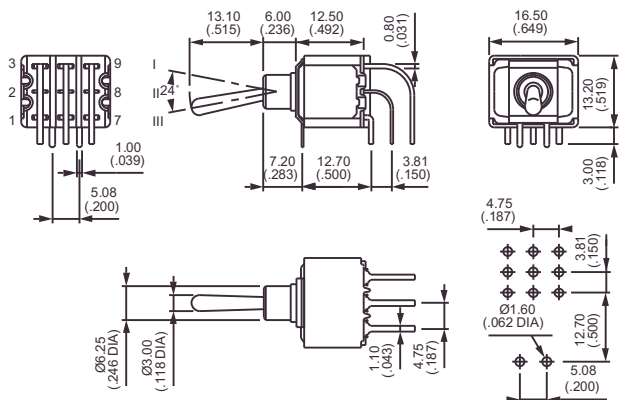


### Three pole



**5256WW**  
**5259WW**  
**5257WW**  
**5258WW\*\***  
**5252WW\*\***

III	II	I
2-3		1-2
5-6		4-5
8-9		7-8
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM



\* and \*\* : see notes next page.

# 5000 SERIES

## TOGGLE SWITCHES - PLAIN BUSHING

Right angle terminals - vertical : 5200WW - 5400WW

MODEL  
STRUCTURE

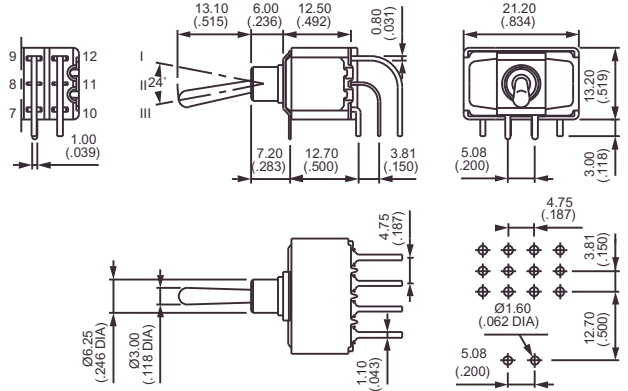
B

### Four pole



5266WW  
5269WW  
5267WW  
5268WW\*\*  
5262WW\*\*  
5264WW\*  
5264WW 1R\*  
5264WW 2R\*

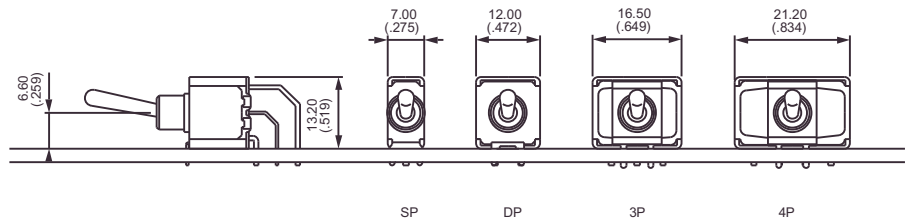
III	II	I
2-3		1-2
5-6		4-5
8-9		7-8
11-12		10-11
	ON -	ON
	ON OFF	ON
	MOM OFF	MOM
	ON OFF	MOM
	ON -	MOM
	ON ON	ON
	ON ON	MOM
	MOM ON	MOM



\* Function 4 : SP in DP case, DP in 4P case - specify CT or TH connections, see end of section B.

\*\* Functions 2 and 8 : reversed connection available, consult factory.

### PCB MOUNTING

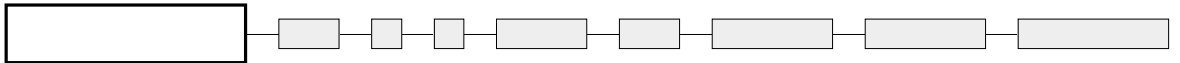


### 5400WW models

- Pin spacing 2,54 mm (.100)
- 1, 2, 3 and 4 pole configurations

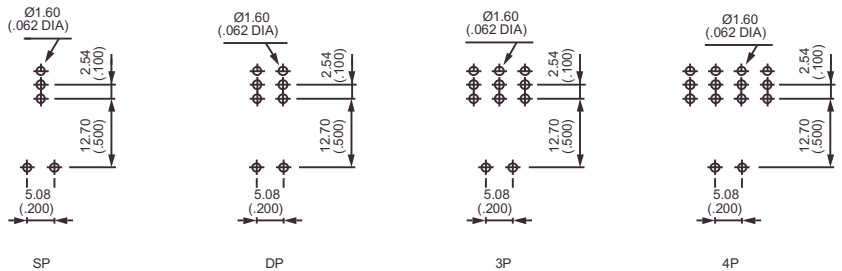
Diagram as per 5200WW model

### MODEL STRUCTURE



For model structure numbers, refer to 5200WW models and replace 2 with 4.

### PC LAYOUT



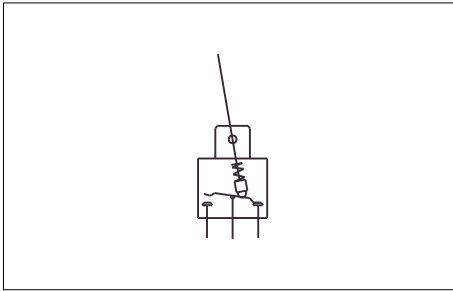
# 5000 SERIES

## TOGGLE SWITCHES - PLAIN BUSHING

### Straight PC terminals - bracket mounting : 5200Y

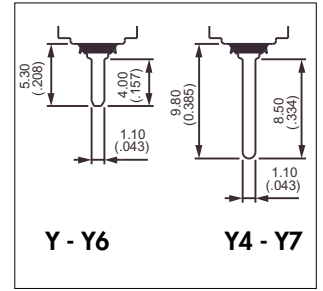
MODEL  
STRUCTURE

B

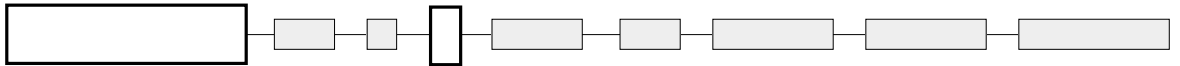


Brackets reduce mechanical stress on solder joints and increase resistance to vibrations.  
Bracket material : tin plated steel.

- Epoxy sealed terminals standard
- 1 and 2 pole configurations



MODEL  
STRUCTURE



Shown with standard lever (-13)

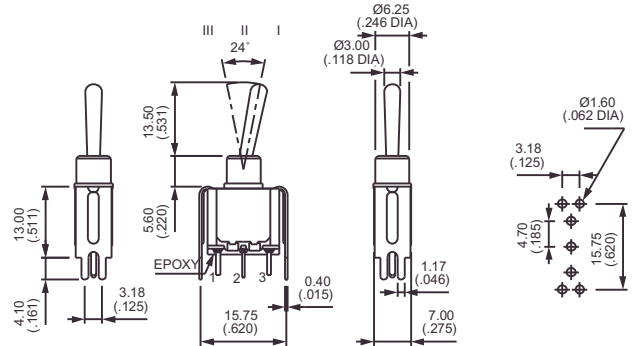
### Short bracket - width 15,75 (.620) - single pole : 5230Y



5236Y B  
5239Y B  
5237Y B  
5238Y B  
5232Y B

III	II	I
2-3		1-2

ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM



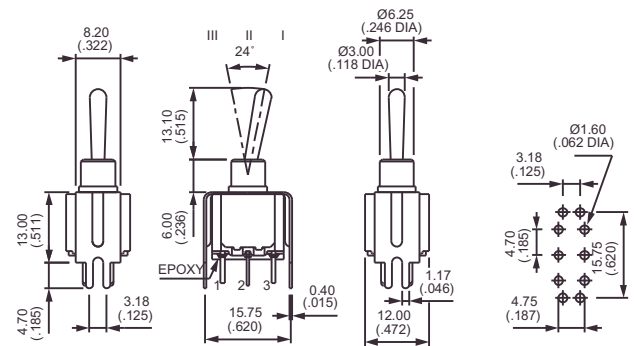
### Short bracket - width 15,75 (.620) - double pole : 5240Y



5246Y B  
5249Y B  
5247Y B  
5248Y B  
5242Y B  
5244Y B\*  
5244Y 1R B\*  
5244Y 2R B\*

III	II	I
2-3		1-2
5-6		4-5

ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



\* Function 4 : SP in DP case - specify CT or TH connections, see end of section B.

# 5000 SERIES

## TOGGLE SWITCHES - PLAIN BUSHING

Straight PC terminals - bracket mounting : 5200Y4 - Y6 - Y7

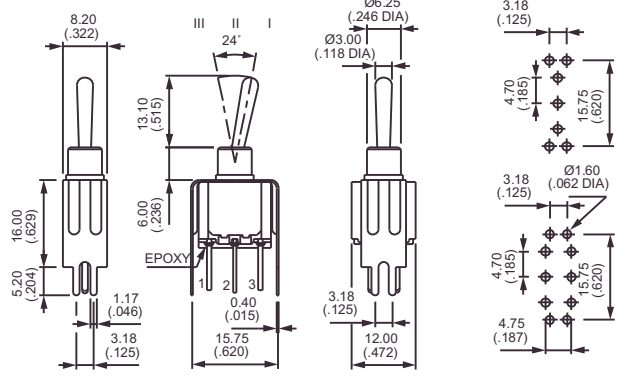
M O D E L  
S T R U C T U R E

B

### Tall bracket - width 15,75 (.620) : 5200Y4



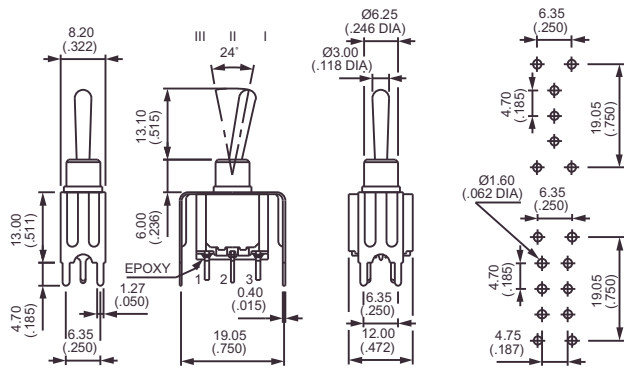
	III	II	I
	2-3		1-2
	5-6		4-5
Single pole			
5236Y4 B	ON	-	ON
5239Y4 B	ON	OFF	ON
5237Y4 B	MOM	OFF	MOM
5238Y4 B	ON	OFF	MOM
5232Y4 B	ON	-	MOM
5244Y4 B*	ON	ON	ON
5244Y4 1R B*	ON	ON	MOM
5244Y4 2R B*	MOM	ON	MOM



### Short bracket - width 19,05 (.750) : 5200Y6



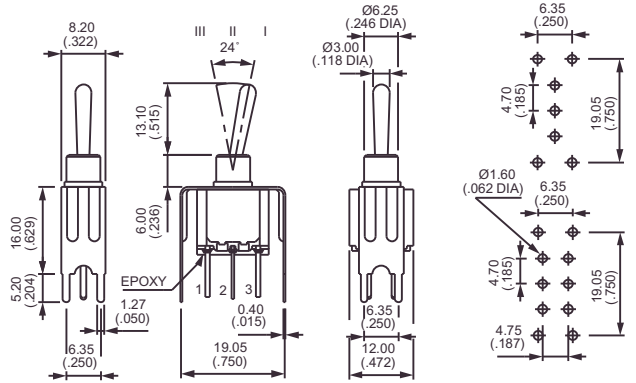
	III	II	I
	2-3		1-2
	5-6		4-5
Single pole			
5236Y6 B	ON	-	ON
5239Y6 B	ON	OFF	ON
5237Y6 B	MOM	OFF	MOM
5238Y6 B	ON	OFF	MOM
5232Y6 B	ON	-	MOM
5244Y6 B*	ON	ON	ON
5244Y6 1R B*	ON	ON	MOM
5244Y6 2R B*	MOM	ON	MOM



### Tall bracket - width 19,05 (.750) : 5200Y7



	III	II	I
	2-3		1-2
	5-6		4-5
Single pole			
5236Y7 B	ON	-	ON
5239Y7 B	ON	OFF	ON
5237Y7 B	MOM	OFF	MOM
5238Y7 B	ON	OFF	MOM
5232Y7 B	ON	-	MOM
5244Y7 B*	ON	ON	ON
5244Y7 1R B*	ON	ON	MOM
5244Y7 2R B*	MOM	ON	MOM



\* Function 4 : SP in DP case - specify CT or TH connections, see end of section B.