Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing



DISTINCTIVE FEATURES

17 actuators including toggles, paddle levers and locking levers in different lengths.

Various contact materials for low and high currents.

7 functions including maintained and momentary versions.

1 to 4 pole configurations.

12 terminal types including 9 for PC board mounting.

Other types include quick-connect and wire-wrap.

Several bushing styles.

3 types of finish including military black.

3 approvals (UL - CSA - CECC).

4 types of sealing for terminal or front panel requirements.

Numerous accessories available.





Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing



ELECTRICAL SPECIFICATIONS

· Current/voltage rating with resistive load :

	Contact	Maximum	Minimum	Level*
	Silver (A)	4 A 30 VDC	50 mA 10 VDC	III and IV
	Silver, gold plated (AD)	4 A 30 VDC Gold plating withstands up to 100 mA 30 VDC	10 mA 50 mV 10 μA 5 V	I to IV
	Brass, gold plated (CD)	0.4 VA at 20 VAC or DC	10 mA 50 mV 10 μA 5 V	I and II

- *For details, see Technical Information on website.
- For inductive, lamp or capacitive load, consult factory.
- Initial contact resistance : 10 m Ω max.
- Insulation resistance : 1,000 M Ω min. at 500 VDC
- 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



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 (-40 °F to +185 °F)

AGENCY APPROVALS







CECC 96201-007

3 A 250 VAC, 6 A 125 VAC

For VDE, refer to 55000 series.

NATO

Availability: consult factory for details of approved models.

Marking: to order switches marked UL, CSA or CECC, complete appropriate box of ordering format. The preferential list does not appear on the switches.



MATERIALS

- Case: diallylphthalate (DAP) or high temperature plastic material (UL94-V0)
- · Actuator : brass, nickel plated
- Paddles : UL94HB polyamide
- Lever caps : vinyl
- Bushing : brass, nickel plated
- Housing : stainless steel or steel tin plated
- Contacts

A: silver

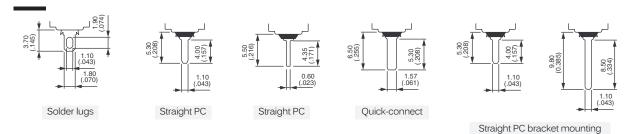
AD: silver, gold plated CD: brass, gold plated X814: for peak currrents, see "Special options".

• Terminal seal : epoxy

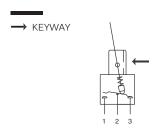
APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing

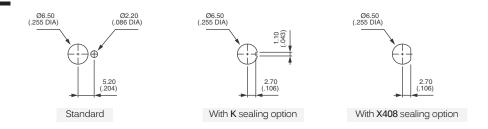




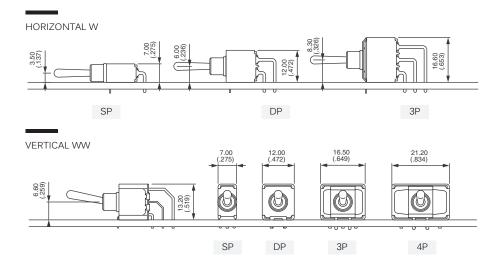
ELECTRICAL FUNCTION



PANEL CUT-OUT



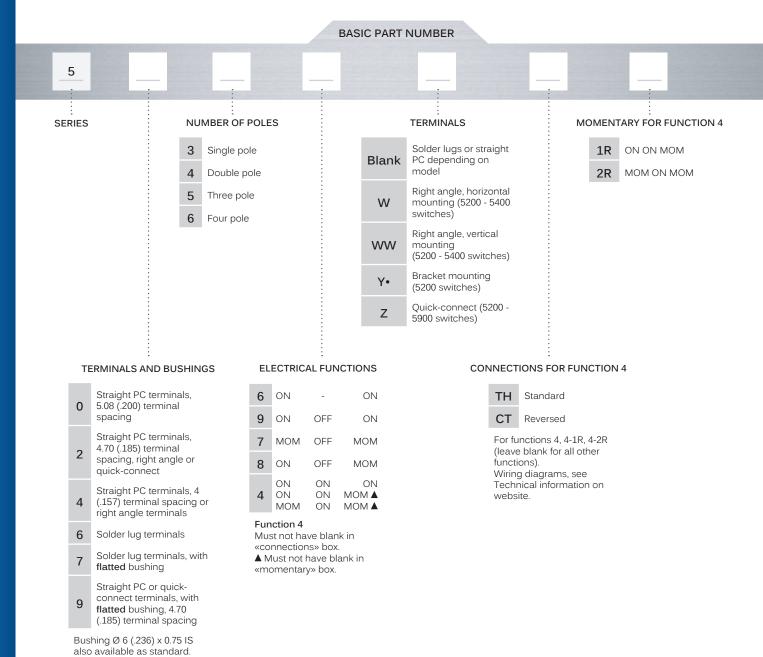
PCB MOUNTING FOR RIGHT ANGLE TERMINAL MODELS



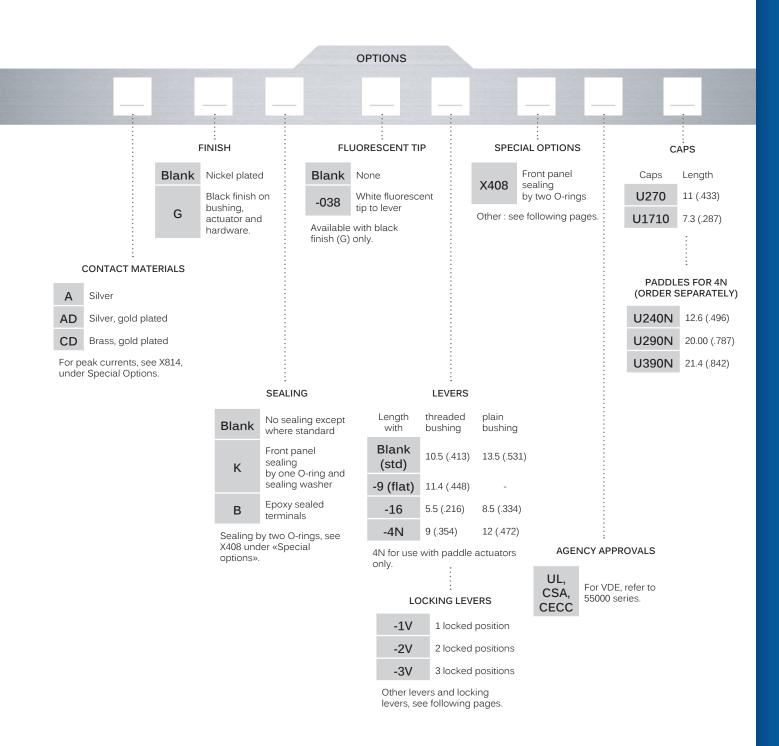
Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing



BUILD YOUR PART NUMBER



Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing



(1)

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.

- (1) Notice: please note that not all combinations of above numbers are available. Refer to the following pages for further information.
- (A) Sealing boots are available. See "Sealing Boots" section of website.
- 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 is presented in the "Hardware" section of website.

Miniature toggle switches • threaded bushing Ø 6.35 mm

SOLDER LUG TERMINALS SINGLE POLE



	III	II	
	2-3		1-2
5636	ON	-	ON
5639	ON	OFF	ON
5637	MOM	OFF	MOM
5638	ON	OFF	MOM

SOLDER LUG TERMINALS DOUBLE POLE



	2-3 5-6	II	1-2 4-5
5646	ON	-	ON
5649	ON	OFF	ON
5647	MOM	OFF	MOM
5648	ON	OFF	MOM
5644*	ON	ON	ON
5644 1R*	ON	ON	MOM
5644 2R*	MOM	ON	MOM

SOLDER LUG TERMINALS THREE POLE



	2-3 5-6 8-9		1-2 4-5 7-8
5656	ON	-	ON
5659	ON	OFF	ON
5657	MOM	OFF	MOM
5658	ON	OFF	MOM

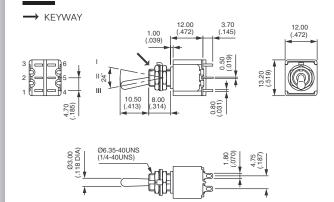
|||

SOLDER LUG TERMINALS FOUR POLE

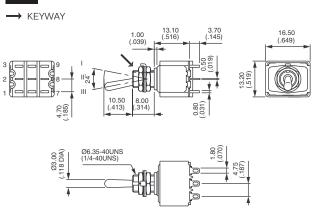


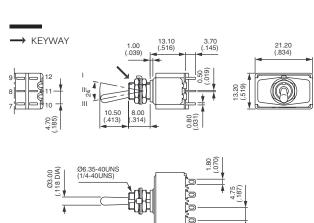
	5-6 8-9 11-12
5666	ON
5669	ON
5667	MOM
5668	ON
5664*	ON
5664 1R*	ON
5664 2R*	MOM

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



* Function 4 : SP in DP case - specify CT or TH connections.





* Function 4 : DP in 4P case - specify CT or TH connections.

Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing

STRAIGHT PC TERMINALS - SPACING 4.7 (.185) SINGLE POLE



	111 2-3	II	1-2
5236 B	ON	-	ON
5239 B	ON	OFF	ON
5237 B	MOM	OFF	MOM
5238 B	ON	OFF	MOM
5238 B	ON	OFF	MOM

STRAIGHT PC TERMINALS - SPACING 4.7 (.185) DOUBLE POLE



	III 2-3 5-6	II	1-2 4-5
5246 B	ON	-	ON
5249 B	ON	OFF	ON
5247 B	MOM	OFF	MOM
5248 B	ON	OFF	MOM
5244 B*	ON	ON	ON
5244 1R B*	ON	ON	MOM
5244 2R B*	MOM	ON	MOM

STRAIGHT PC TERMINALS - SPACING 4.7 (.185) THREE POLE



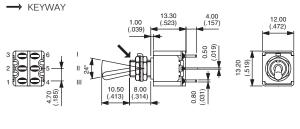
	111 2-3 5-6 8-9	II	1-2 4-5 7-8
E050 B			
5256 B	ON	-	ON
5259 B	ON	OFF	ON
5257 B	MOM	OFF	MOM
5258 B	ON	OFF	MOM

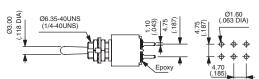
STRAIGHT PC TERMINALS - SPACING 4.7 (.185)



	2-3 5-6 8-9 11-12		1-2 4-5 7-8 10-11
5266 B	ON	-	ON
5269 B	ON	OFF	ON
5267 B	MOM	OFF	MOM
5268 B	ON	OFF	MOM
5264 B*	ON	ON	ON
5264 1R B*	ON	ON	MOM
5264 2R B*	MOM	ON	MOM

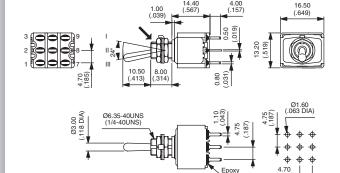
Ш



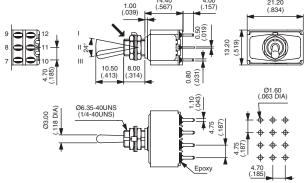


 $\mbox{\ensuremath{^{\star}}}$ Function 4 : SP in DP case - specify CT or TH connections.









^{*} Function 4: SP in DP case - specify CT or TH connections.

Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing

STRAIGHT PC TERMINALS SPACING 5.08 (.200)



		2-3	11	1-2
Single pole	Double pole	5-6		4-5
5036 B	5046 B	ON	-	ON
5039 B	5049 B	ON	OFF	ON
5037 B	5047 B	MOM	OFF	MOM
5038 B	5048 B	ON	OFF	MOM
	5044* B	ON	ON	ON
	5044 1R* B	ON	ON	MOM
	5044 2R* B	MOM	ON	MOM

Epoxy sealed terminals standard (B)

QUICK-CONNECT TERMINALS SINGLE POLE



		II II	
	III		I
	2-3		1-2
5236Z B	ON	-	ON
5239Z B	ON	OFF	ON
5237Z B	MOM	OFF	MOM
5238Z B	ON	OFF	MOM

Single and double pole models also available with flatted bushing : 5900Z. Epoxy sealed terminals standard (B).

QUICK-CONNECT TERMINALS DOUBLE POLE



	111 2-3 5-6	II	1-2 4-5
5246Z B	ON	-	ON
5249Z B	ON	OFF	ON
5247Z B	MOM	OFF	MOM
5248Z B	ON	OFF	MOM
5244Z* B	ON	ON	ON
5244Z 1R* B	ON	ON	MOM
5244Z 2R* B	MOM	ON	MOM

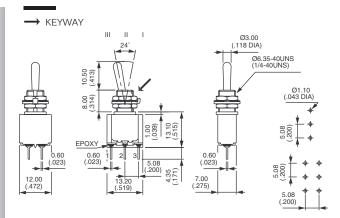
Epoxy sealed terminals standard (B).

RIGHT ANGLE TERMINALS - HORIZONTAL SINGLE POLE



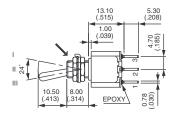
	III 2-3	II	1-2
5236W	ON	-	ON
5239W	ON	OFF	ON
5237W	MOM	OFF	MOM
5238W	ON	OFF	MOM

Also available with terminal spacing 4 mm (.157) instead of 4.7 (.185): 5400W.

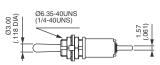


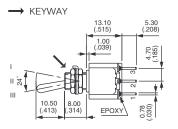
* Function 4: SP in DP case - specify CT or TH connections.

→ KEYWAY

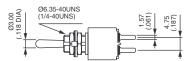




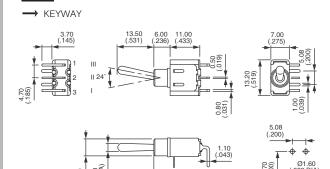








* Function 4: SP in DP case - specify CT or TH connections.



Miniature toggle switches • plain bushing

RIGHT ANGLE TERMINALS - HORIZONTAL DOUBLE POLE



	III 2-3 5-6	II	1-2 4-5
5246W	ON	-	ON
5249W	ON	OFF	ON
5247W	MOM	OFF	MOM
5248W	ON	OFF	MOM
5244W*	ON	ON	ON
5244W 1R*	ON	ON	MOM
5244W 2R*	MOM	ON	MOM

Also available with terminal spacing 4 mm (.157) instead of 4.7 (.185): 5400W.

RIGHT ANGLE TERMINALS - HORIZONTAL THREE POLE



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

RIGHT ANGLE TERMINALS - VERTICAL SINGLE POLE



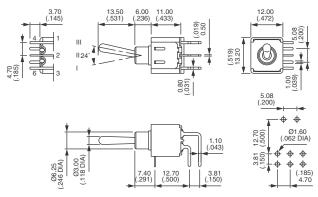
	III 2-3	II	1-2
5236WW	ON	-	ON
5239WW	ON	OFF	ON
5237WW	MOM	OFF	MOM
5238WW**	ON	OFF	MOM

RIGHT ANGLE TERMINALS - VERTICAL DOUBLE POLE

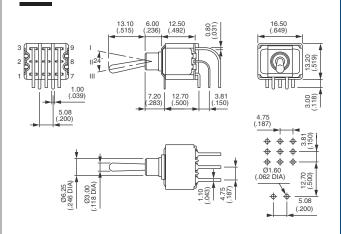


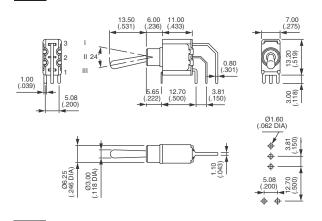
	2-3 5-6	"	1-2 4-5
5246WW	ON	-	ON
5249WW	ON	OFF	ON
5247WW	MOM	OFF	MOM
5248WW**	ON	OFF	MOM
5244WW*	ON	ON	ON
5244WW 1R*	ON	ON	MOM
5244WW 2R*	MOM	ON	MOM

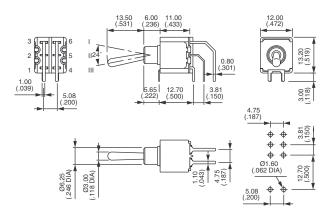
Shown with standard lever



* Function 4 : SP in DP case - specify CT or TH connections.

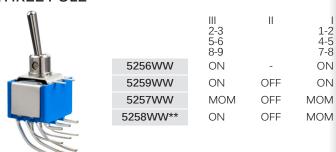






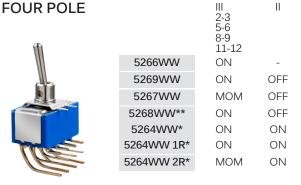
Miniature toggle switches • plain bushing

RIGHT ANGLE TERMINALS - VERTICAL THREE POLE



^{**} Function 8: reversed connection available, consult factory.

RIGHT ANGLE TERMINALS - VERTICAL



Vertical right angle models above also available with terminal spacing 2.54 mm (.100) instead of 3.81 mm (.150) : 5400WW.

SHORT BRACKET - WIDTH 15.75 (.620) SINGLE POLE



	2-3	11	1-2
5236Y B	ON	-	ON
5239Y B	ON	OFF	ON
5237Y B	MOM	OFF	MOM
5238Y B	ON	OFF	MOM

Ш

1-2 4-5 7-8 10-11

ON

ON

MOM

MOM

MOM

MOM

ON

Epoxy sealed terminals standard (B).

SHORT BRACKET - WIDTH 15.75 (.620) **DOUBLE POLE**

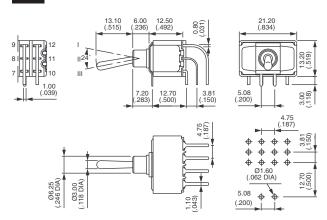


	2-3 5-6		1-2 4-5
5246Y B	ON	-	ON
5249Y B	ON	OFF	ON
5247Y B	MOM	OFF	MOM
5248Y B	ON	OFF	MOM
5244Y B*	ON	ON	ON
5244Y 1R B*	ON	ON	MOM
5244Y 2R B*	MOM	ON	MOM

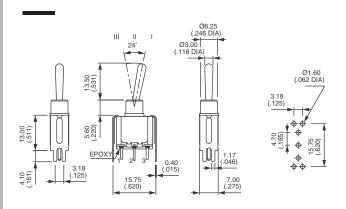
Epoxy sealed terminals standard (B).

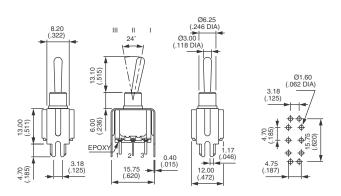
Shown with standard lever Ø6.25 .246 DIA)

(.200)



* Function 4: SP in DP case, DP in 4P case - specify CT or TH connections.





*Function 4 : SP in DP case - specify CT or TH connections.

APEM

5000 series

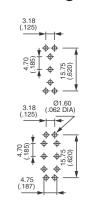
Miniature toggle switches • plain bushing

TALL BRACKET - WIDTH 15.75 (.620)



Single pole 5236Y4 B	Double pole 5246Y4 B	III 2-3 5-6 ON	-	1-2 4-5 ON
5239Y4 B	5249Y4 B	ON	OFF	ON
5237Y4 B	5247Y4 B	MOM	OFF	MOM
5238Y4 B	5248Y4 B	ON	OFF	MOM
	5244Y4 B*	ON	ON	ON
	5244Y4 1R B*	ON	ON	MOM
	5244Y4 2R B*	MOM	ON	MOM

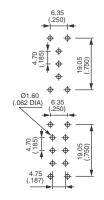
8.20 III II I 24°	Ø6.25 (.246 DIA) Ø3.00 (.118 DIA)
(515)	
16.00 (6.29) (2.36) (2.36)	
EPOXY 1 2 3 1.17 0.40 (.015)	3.18 (.125)
3.18 (.125) 15.75 (.620)	12.00 (.472)



SHORT BRACKET - WIDTH 19.05 (.750)



Single pole	Double pole	111 2-3 5-6	II	1-2 4-5
5236Y6 B	5246Y6 B	ON	-	ON
5239Y6 B	5249Y6 B	ON	OFF	ON
5237Y6 B	5247Y6 B	MOM	OFF	MOM
5238Y6 B	5248Y6 B	ON	OFF	MOM
	5244Y6 B*	ON	ON	ON
	5244Y6 1R B*	ON	ON	MOM
	5244Y6 2R B*	MOM	ON	MOM



TALL BRACKET - WIDTH 19.05 (.750)

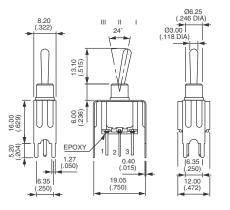


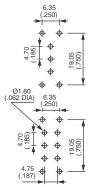
Single pole 5236Y7 B	Double pole 5246Y7 B	III 2-3 5-6 ON	-	1-2 4-5 ON
5239Y7 B	5249Y7 B	ON	OFF	ON
5237Y7 B	5247Y7 B	MOM	OFF	MOM
5238Y7 B	5248Y7 B	ON	OFF	MOM
	5244Y7 B*	ON	ON	ON
	5244Y7 1R B*	ON	ON	MOM
	5244Y7 2R B*	MOM	ON	MOM



Epoxy sealed terminals standard (B).

* Function 4 : SP in DP case - specify CT or TH connections.

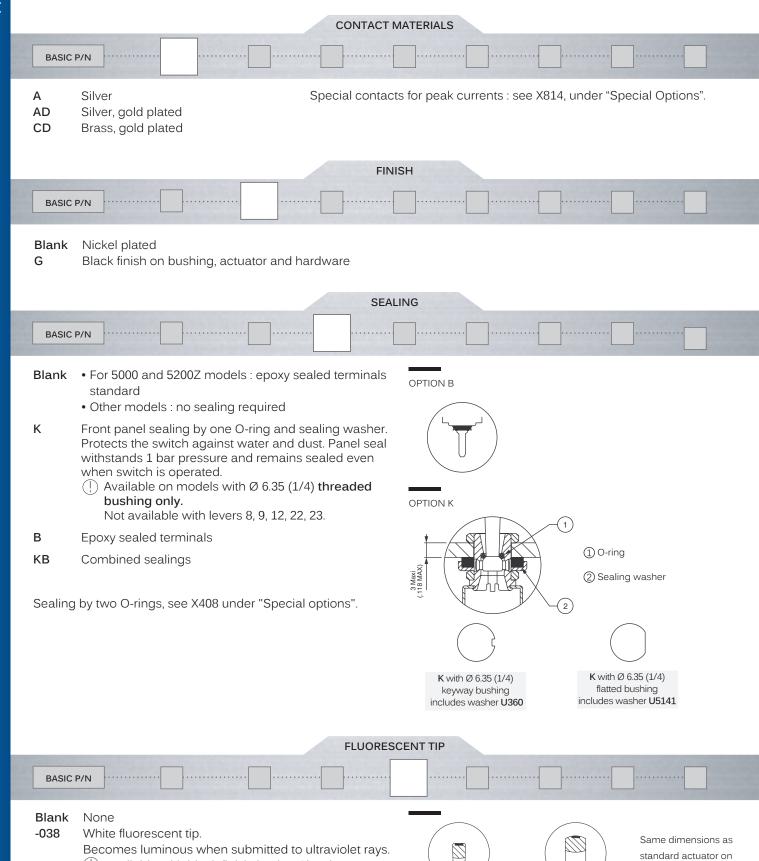




Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing

(!) Available with black finish (option G) only.

Consult factory for levers available with this option.

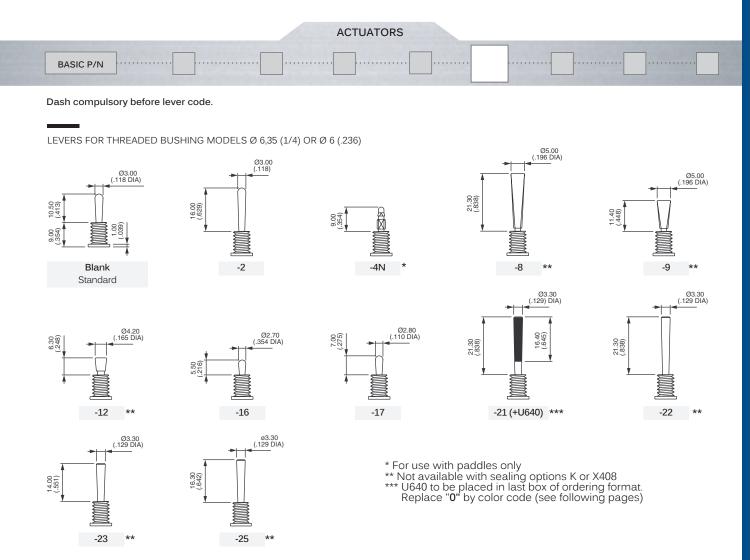


next page.

Locking lever

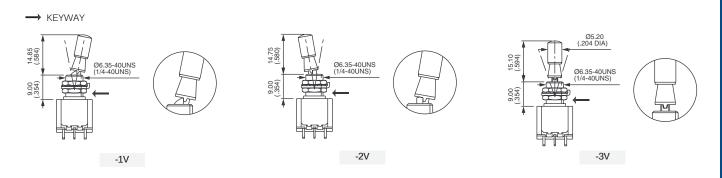
-19 Strandard lever

Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing



LOCKING LEVERS FOR THREADED BUSHING MODELS Ø 6,35 (1/4)

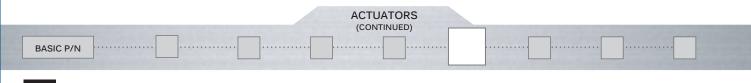
- -1V 1 locked position (function 6)
- -2V 2 locked position (function 6)
- -3V 3 locked positions (functions 9 and 4)



Consult factory for other locking lever options.

For plain bushing models, see X386 or X916 under "Special options" on the following pages.

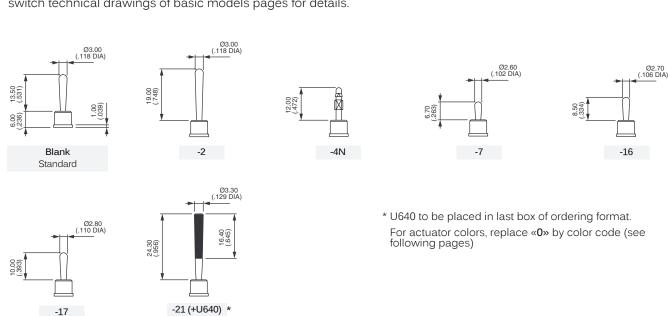
Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing

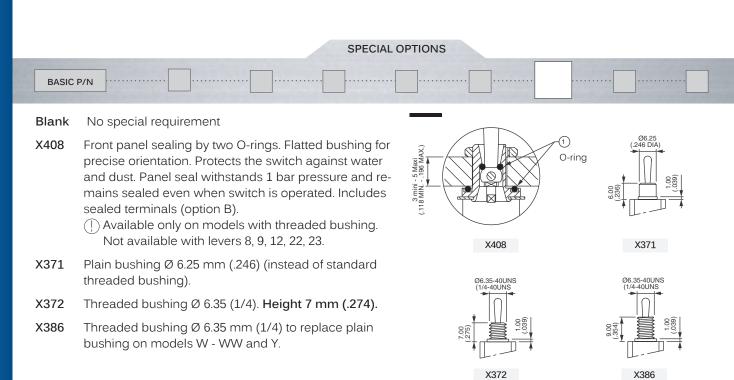


LEVERS FOR PLAIN BUSHING MODELS: W - WW AND Y

-17

Lever length: With bracket or mounting plate lever length will be reduced by 0.4 mm (.015) as a rule. Please refer to switch technical drawings of basic models pages for details.





APEM

5000 series

Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing

SPECIAL OPTIONS (CONTINUED)

BASIC P/N

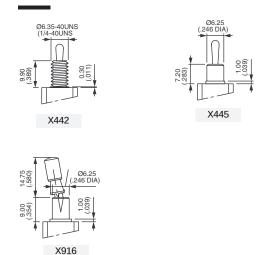
- X442 Threaded bushing Ø 6.35 mm (1/4) Height 9.9 mm (.389).
- X445 Plain bushing. **Height 7.2 mm (.283)** for W, WW and Y models.

Available with the same levers, insulating cap and paddles as X404.`

X601 Silver plated brass contacts.

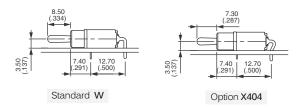
Current/voltage rating for an electrical life of 20,000 cycles: 0.5 A 30 VDC. Minimum quantity: 5,000 pieces per model and shipment.

- X681 Satin chrome actuator
- X814 Switches for peak currents single and double pole.
 On request.
- X902 Plain bushing Ø 6.25 mm (.246) Height 9 mm (.354) (not available with K sealing option).
- X916 Locking lever on model with plain bushing.
- X404 Horizontal right angle (W) with reduced overall dimensions (shown with lever -16)

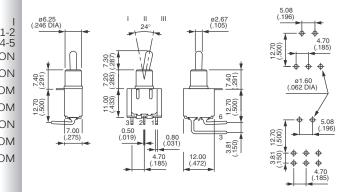


() With options X372, X386, X442 and X445, the lever lengths indicated on previous pages will be modified.

OPTION X404

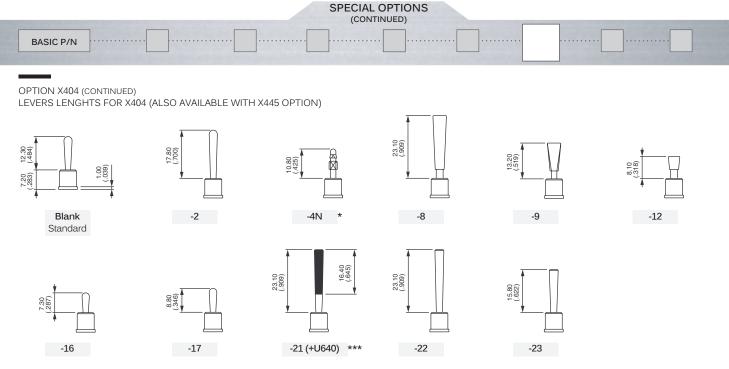






^{*} Function 4: SP in DP case - specify CT or TH connections

Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing



^{*} For paddles

Insulating caps and paddles for X404:

Insulating cap U1710 available with lever style 16.

Paddles U240N, U290N and U390N available with lever style 4N. See details on next page..



Blank No agency approval required.

UL All standard models

CSA

CECC Standard models 5600 - 5200

Availability: consult factory for details of approved combinations or options.

Marking: to order switches marked UL, CSA or CECC, complete above box with desired approvals, in this order & without space (ex.: ULCSACECC). VDE (with UL & CSA): Refer to 55000 series.

Preferential lists: see specifications.

^{***} U640 to be placed in last box of ordering format. Replace "0" with color code.

Miniature toggle switches • threaded bushing Ø 6.35 mm or plain bushing

INSULATING CAPS

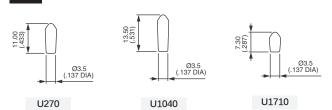


U270 For standard lever & threaded bushing only

U1040 For standard lever & plain bushing only

U1710 For lever 17 and threaded bushing

For lever 7 and plain bushing

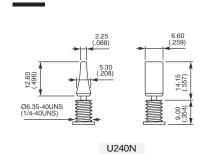


For cap colors, replace "0" with number:

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

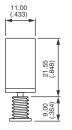
PADDLES

For use with lever 4N only. Shown with standard threaded bushing. Order separately.



2.00 (.078) (1.4 (.078) (2.36) (2.36) (2.36) (1.4 (.078) (1.4 (.07

U290N



2.00 (.078) 11.00 (.433) (.433

U390N

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