

# 13000 series

## Professional quick-break momentary pushbutton switches

*Distinctive features and specifications*

UG1410A



PC and panel mount models

Bushing Ø 6,35 (1/4) and 11,9 (15/32)

UL and CECC approved

B2

### ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
  - silver contacts (A-AD2) : 4A 30VDC
  - gold plated contacts (CD) : 100mA 30V
- Minimum load (AD2-CD contacts) : 10mA 50mV, 10µA 5V min.
- Initial contact resistance : 10 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength :
  - 1.000 Vrms 50 Hz min. between terminals
  - 2.000 Vrms 50 Hz min. between poles and between terminals and frame
- Contact bounce : 2 ms max.
- Electrical life :

Contacts	Max. current/voltage rating	Number of cycles
A	4A 30VDC	50.000
AD2	4A 30VDC (gold plating : 100mA 30VDC max.)	20.000
CD	100mA 30VDC	50.000
	Low level or mechanical life	150.000

### MATERIALS

- Case : diallylphthalate (DAP)
- Actuator : brass, nickel plated
- Bushing : brass, nickel plated
- Housing : brass, nickel plated
- Contacts : **A** : silver
- **AD2** : silver, gold plated  
(2 micron gold)
- **CD** : brass, gold plated
- Terminal seal : epoxy

Note : AD2 contacts can be used for high level applications. In this case, the gold layer is considered only as a protection against oxidation during storage.

### GENERAL SPECIFICATIONS

- Torque : 1,25 Nm (.922 Ft.lb)  
max. applied to nut
- Standard panel thickness : 2 mm (.078) max.
- Total travel : 2 mm (.078)
- Operating temperature :  
-40°C to +85°C

The company reserves the right to change specifications without notice.

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Specifications

### RELIABILITY - RUN-IN TEST

Upon request, each individual switch can be submitted to a low level run-in test of 50 or 250 cycles to ensure suitability for special applications requiring a very high level of reliability (military, space,etc.).

### AGENCY APPROVALS



2A 125VAC/250VAC



CECC 96401-001

Designed to **MIL** specifications

#### Availability :

UL : all models with silver or gold plated silver contacts  
CECC : consult factory for details of approved models.

**Marking** : to order switches marked UL or CECC, complete appropriate box of ordering format.

B2

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



**Sealing boots** are available to protect the switches against dust and water. They are presented in section H.



**Mounting accessories** : standard hardware supplied with all models : 2 hex nuts 8 mm (.314) across flats, 1 locking ring and 1 lockwasher.

Standard and special hardware available are presented in section I.

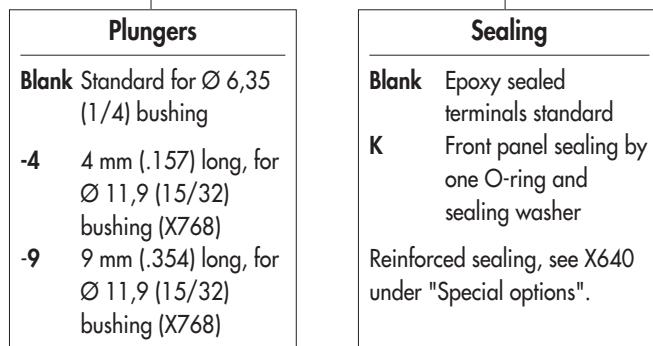
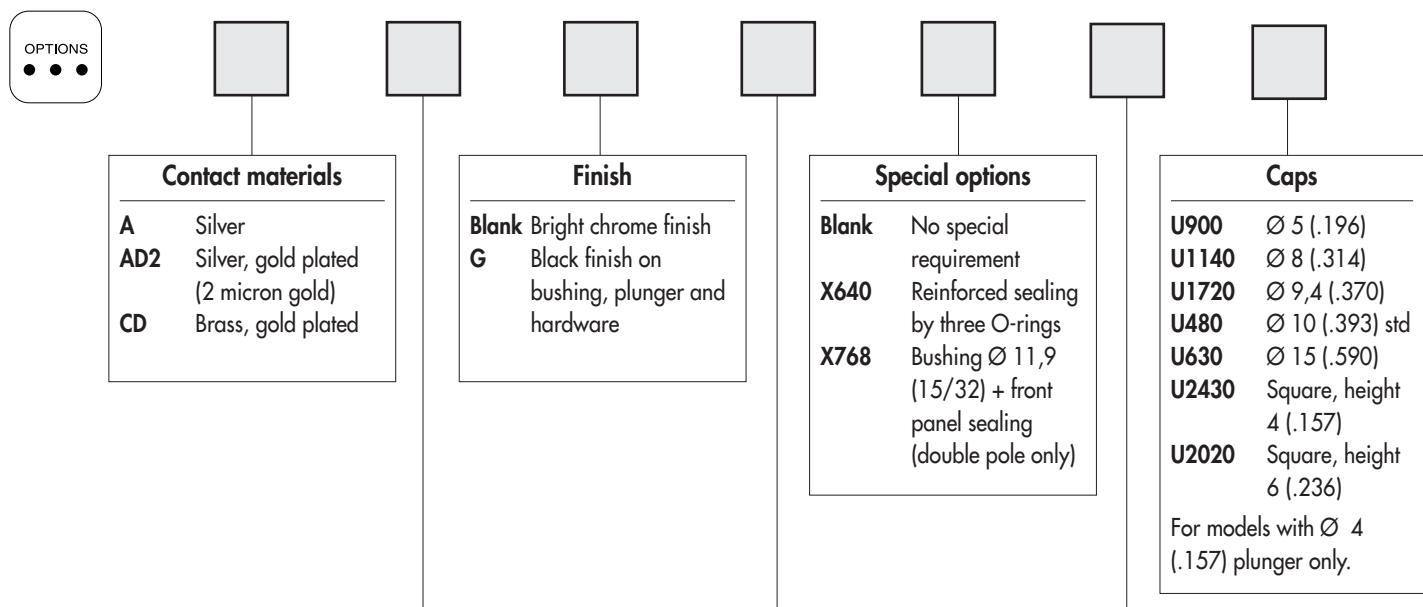
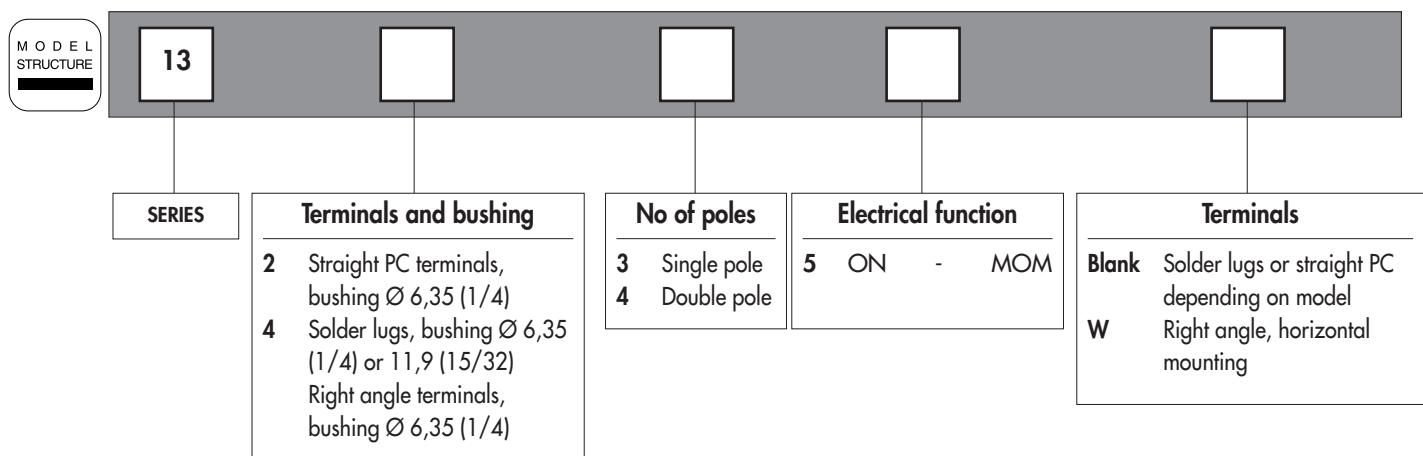


**Packaging unit** : 50 pieces.

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### Overview



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

### ABOUT THIS SERIES

On the following pages, you will find successively :  
 - model structure of switches  
 - options in the same order as in above chart

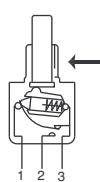


# 13000 series

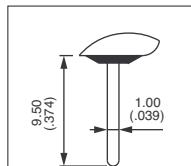
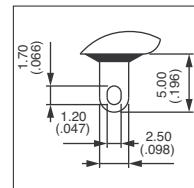
## Professional quick-break momentary pushbutton switches

Solder lug terminals : 13400 - Straight PC terminals : 13200

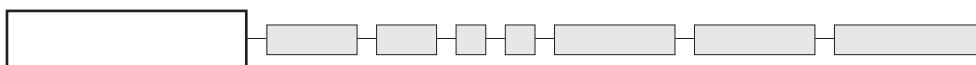
→ Keyway



- Threaded bushing Ø 6,35 mm (1/4)
- Epoxy sealed terminals standard



### MODEL STRUCTURE



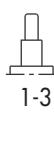
B2

### Solder lug terminals : 13400



Single pole  
13435

Double pole  
13445

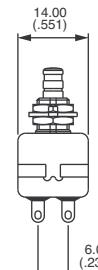
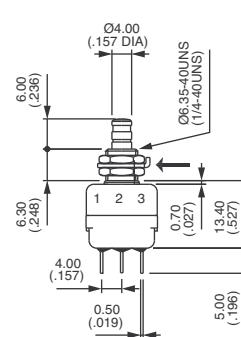
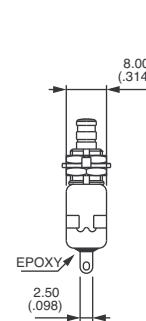


ON



MOM

→ Keyway



### Straight PC terminals : 13200

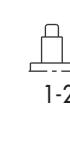


Single pole  
13235

Double pole  
13245

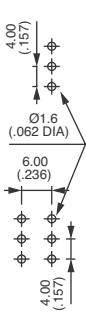
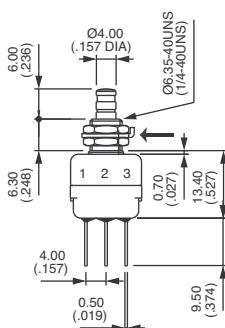


ON



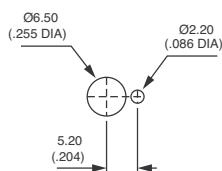
MOM

→ Keyway

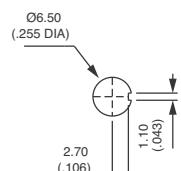


### PANEL CUT-OUT

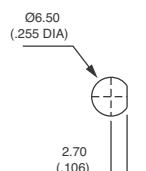
#### 13400 - 13200



Standard



With K  
sealing option



With X640  
sealing option

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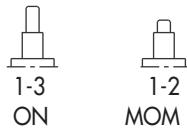
OPTIONS  
• • •

Right angle terminals : 13400W

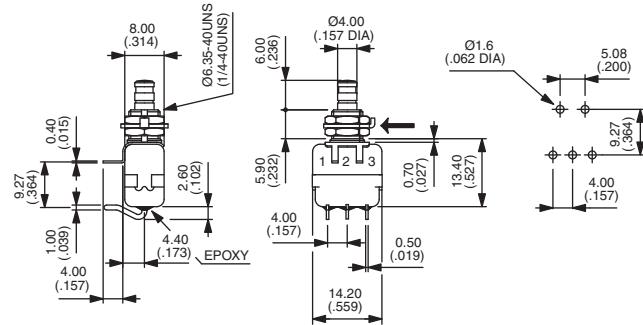
### Right angle terminals - single pole



13435W



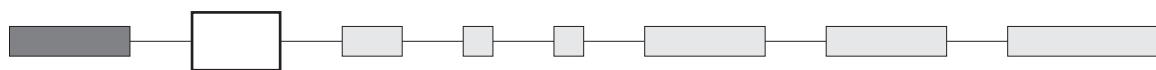
→ Keyway



B2

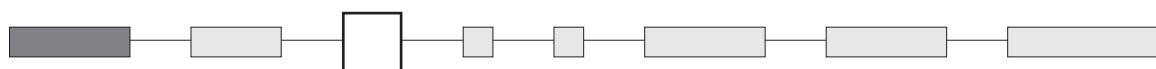
Panel cut-out, see previous page.

### CONTACT MATERIALS



**A** Silver  
**AD2** Silver, gold plated (2 micron gold)  
**CD** Brass, gold plated

### PLUNGER



Dash compulsory before plunger code.

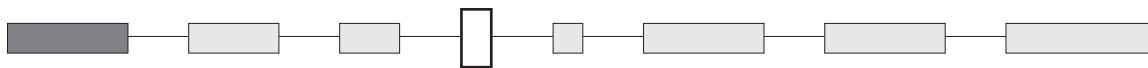
- Blank** Standard plunger for Ø 6,35 (1/4) bushing  
**-4** 4 mm (.157) long plunger for Ø 11,9 (15/32) bushing (X768 option)  
**-9** 9 mm (.354) long plunger for Ø 11,9 (15/32) bushing (X768 option)



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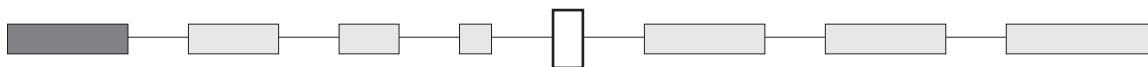
### FINISH



**Blank** Bright chrome finish

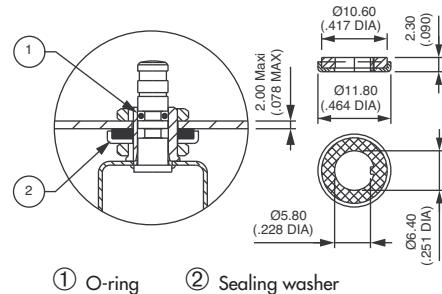
**G** Black finish on bushing, actuator and hardware

### SEALING



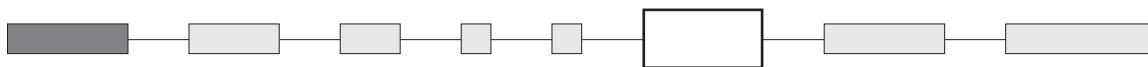
**K** Front panel sealing by one O-ring and sealing washer. Protects the switch against water and dust.  
Panel seal withstands 1 bar pressure and remains sealed even when switch is operated.

Reinforced sealing : see X640 under "Special options".



① O-ring      ② Sealing washer

### SPECIAL OPTIONS

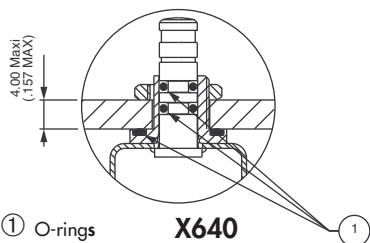


**X640** Front panel sealing by three O-rings. Flattened bush for precise orientation.  
Protects the switch against water and dust.  
Panel seal withstands 1 bar pressure and remains sealed even when switch is operated.



Available on models with Ø 6,35 (1/4) bushing only.

**X935** C-ring on plunger for positive stop



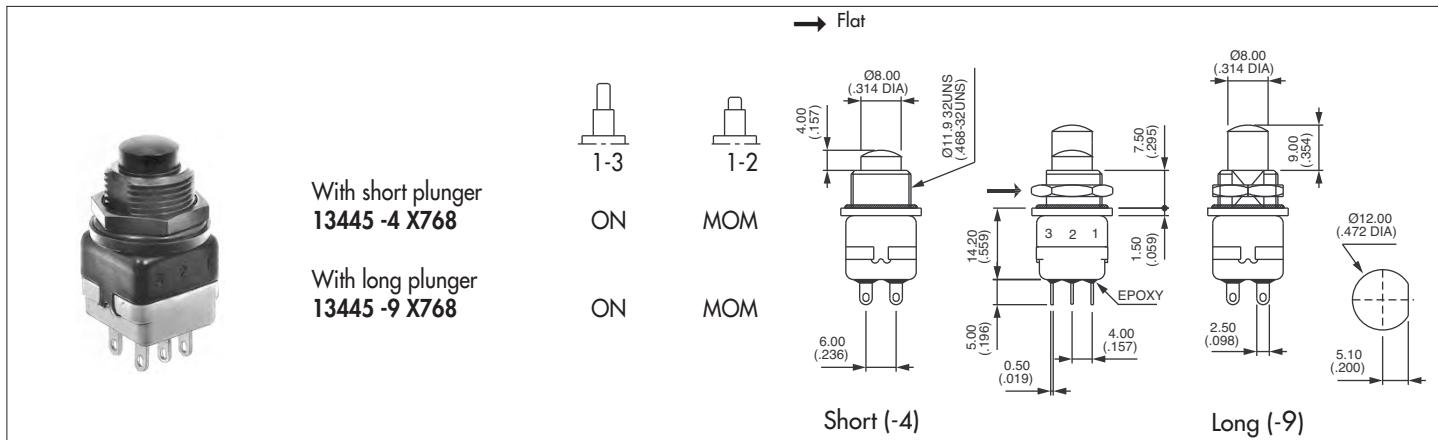
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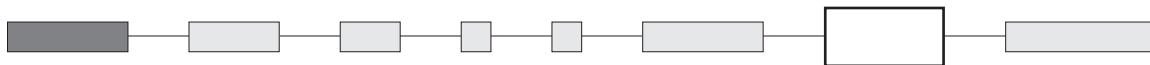
**X768** Sealed switch with  $\varnothing$  11,9 (15/32) flattened bushing. Chrome plated actuator. Solder lug terminals, double pole. Contact and finish options available.

**Security cap** for this model : see section I.



B2

### AGENCY APPROVALS



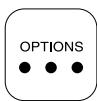
**UL**

**CECC** CECC 96401-001

#### Availability :

UL : all models with silver or gold plated silver contacts  
CECC : consult factory for details of approved models.

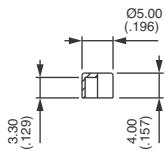
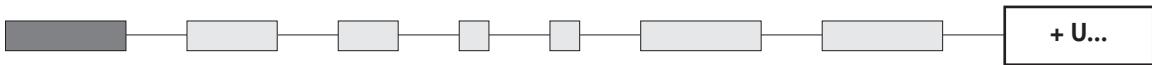
**Marking** : to order switches marked UL or CECC, please complete above box with desired approval.  
Blank : no agency approval required.



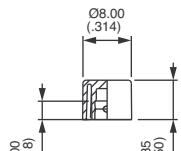
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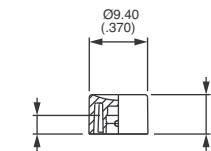
## CAPS



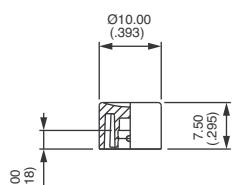
**U900**



**U1140**

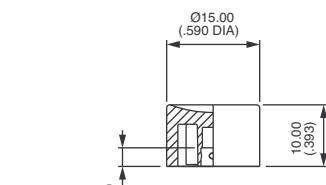


**U1720**

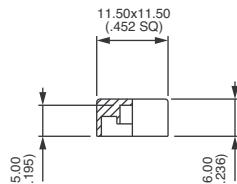


**U480**

Standard

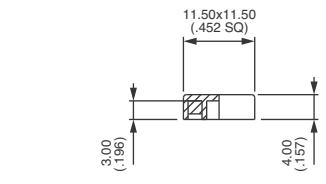


**U630**



**U2020**

Square



**U2430**

Square

For models with Ø 6,35 (1/4) bushing only.



### Cap colours

Replace last "0" by number

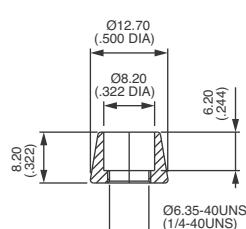
1	blue
1/4	dark blue
2	black
3	green
4	grey
5	yellow
6	red
7	ivory
7/1	white
9	orange

## DRESS NUTS

Chrome plated

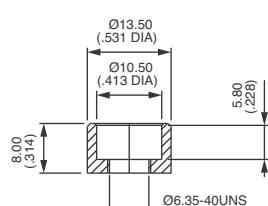


For models with Ø 6,35 (1/4) bushing only.



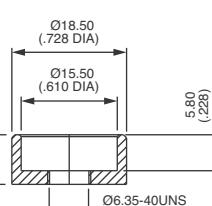
**U1636**

For cap U1140



**U840**

For cap U480



**U825**

For cap U630

Dress nuts are to be ordered separately.

# Mouser Electronics

Authorized Distributor

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