

13000 SERIES

PROFESSIONAL QUICK-BREAK MOMENTARY PUSHBUTTON SWITCHES

Specifications

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
 - silver contacts (A-AD2) : 2A 250VAC - 4A 125VAC - 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	2A 250VAC - 4A 125VAC - 4A 30VDC	50.000
AD2	2A 250VAC - 4A 125 VAC - 4A 30VDC (gold plating : 30V - 100mA max.)	20.000
CD	100mA 30VDC	50.000
	Low level or mechanical life	150.000

MATERIALS

- Case : diallylphthalate (DAP)
- Actuator : brass, chrome 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

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/PREFERENTIAL LISTS



CECC 96401-001

QPL (Europe only)

MUAHAG

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.

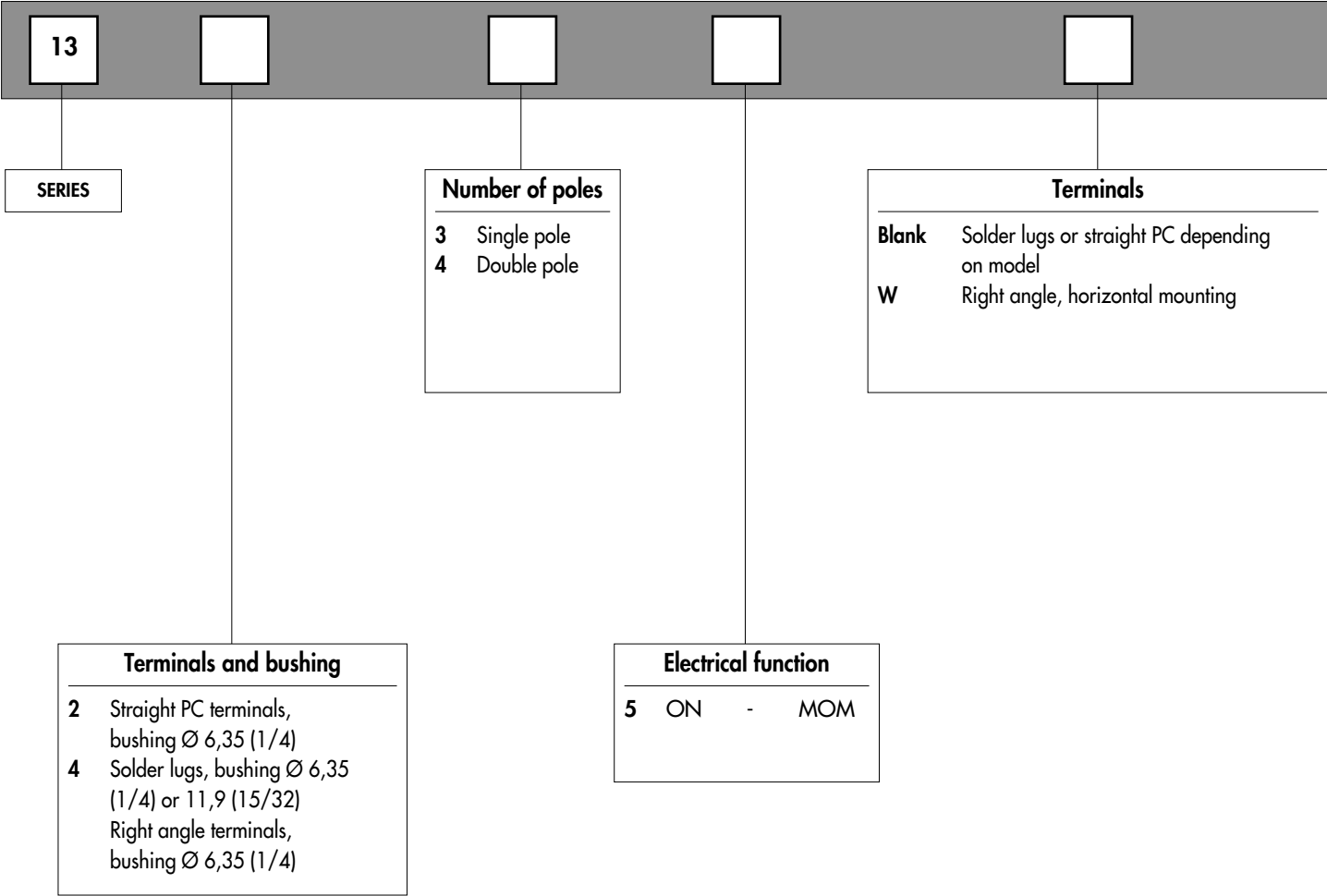
Preferential lists do not appear on the switches.

13000 SERIES

PROFESSIONAL QUICK-BREAK MOMENTARY PUSHBUTTON SWITCHES

Overview

MODEL
STRUCTURE



ABOUT THIS SERIES

On the following pages, you will find successively :

- specifications
- model structure of switches
- options in the same order as in above chart

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



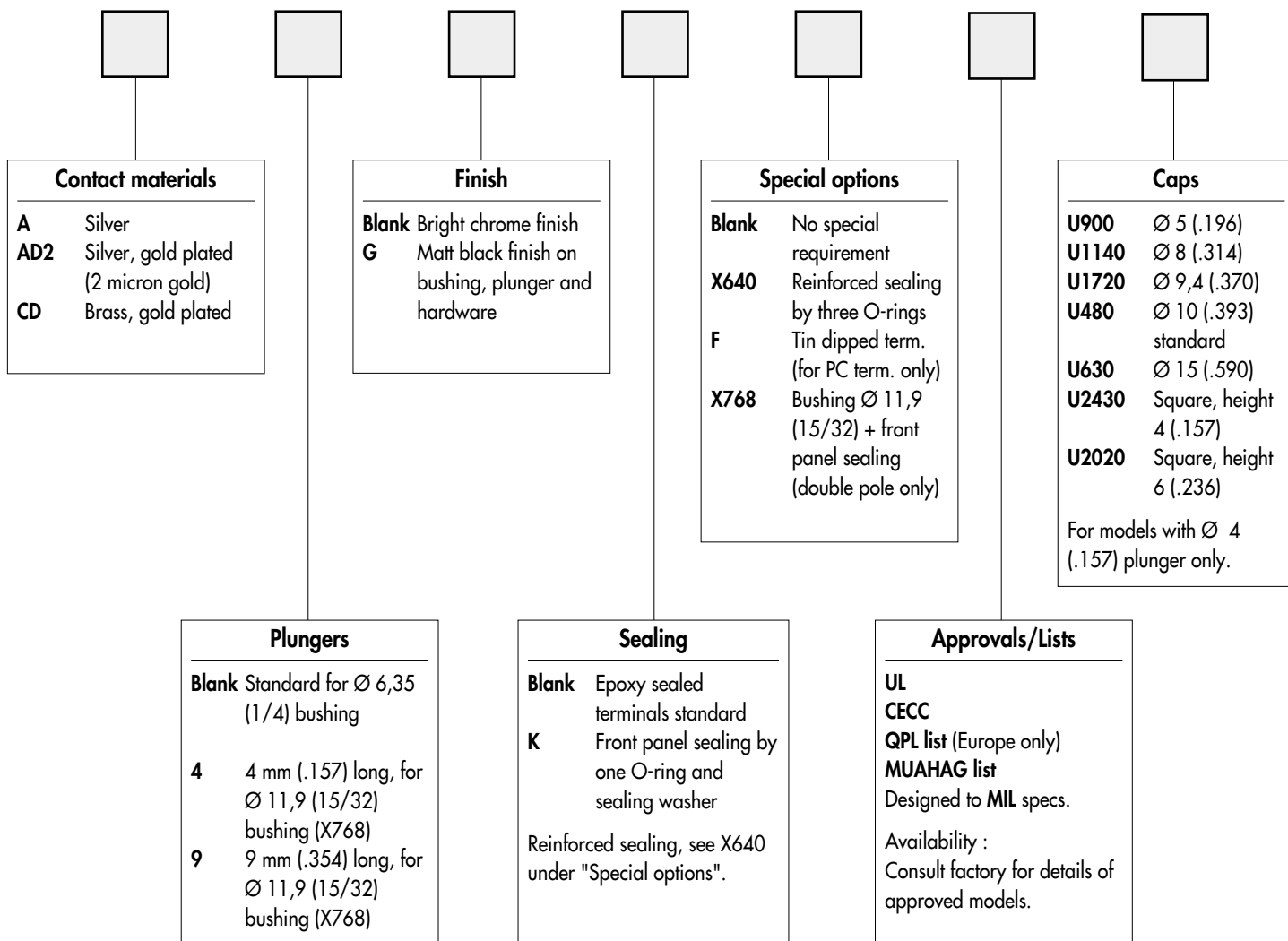
NOTICE : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

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Overview

OPTIONS



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



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 N.



Packaging unit : 50 pieces.

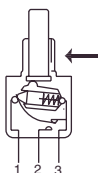
13000 SERIES

PROFESSIONAL QUICK-BREAK MOMENTARY PUSHBUTTON SWITCHES

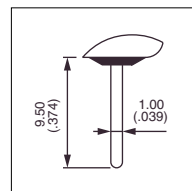
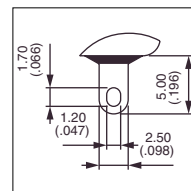
Solder lug terminals : 13400 - Straight PC terminals : 13200

MODEL
STRUCTURE

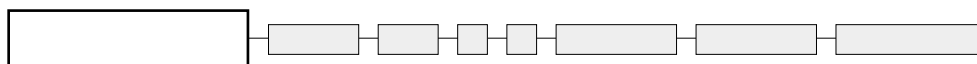
→ Keyway



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



MODEL
STRUCTURE



Solder lug terminals : 13400

→ Keyway



Single pole
13435

Double pole
13445



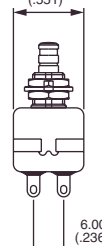
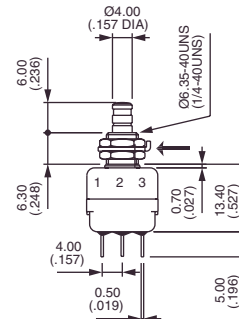
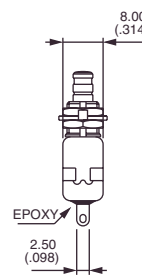
1-3

ON



1-2

MOM



Straight PC terminals : 13200

→ Keyway



Single pole
13235

Double pole
13245



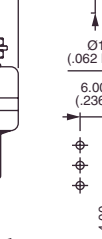
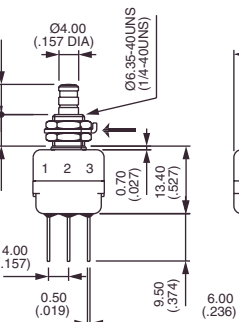
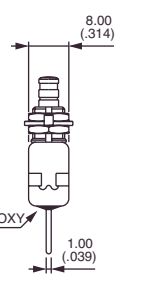
1-3

ON



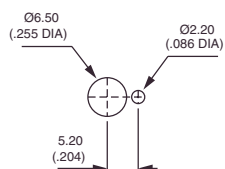
1-2

MOM

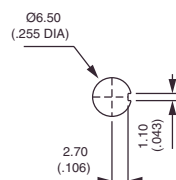


PANEL CUT-OUT

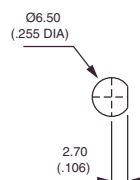
13400 - 13200



Standard



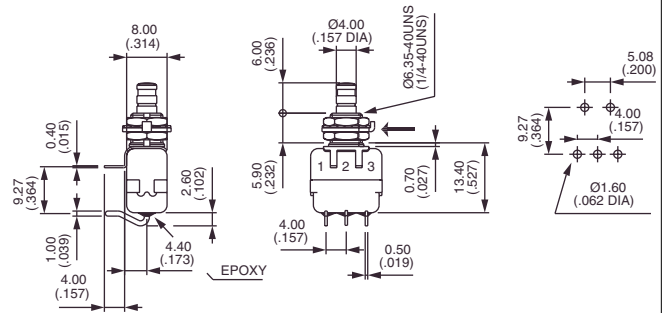
With K
sealing option



With X640
sealing option

OPTIONS
● ● ●

→ Keyway



D

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

```

graph LR
    n1[Node 1] --> n2[Node 2]
    n2 --> n3[Node 3]
    n3 --> n4[Node 4]
    n4 --> n5[Node 5]
    n5 --> n6[Node 6]
    n6 --> n7[Node 7]
    n7 --> n8[Node 8]
    n8 --> null(( ))
  
```

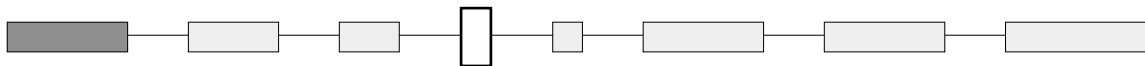
Blank	Standard plunger for Ø 6,35 (1/4) bushing
-4	4 mm (.157) long plunger for Ø 11,9 (15/32) bushing (X768 option)
-9	9 mm (.354) long plunger for Ø 11,9 (15/32) bushing (X768 option)

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OPTIONS
● ● ●

FINISH

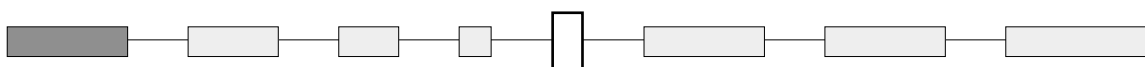


Blank Bright chrome finish

G Matt black finish on bushing, actuator and hardware

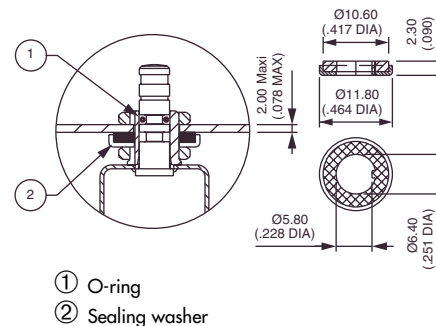
D

SEALING

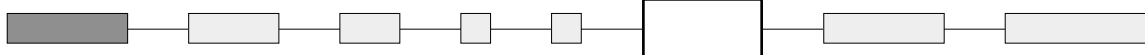


K Front panel sealing by one O-ring and sealing washer. Protects the switch against water and dust. Panel seal withstands 1 bar pressure and remains sealed even when switch is operated.

Reinforced sealing : see X640 under "Special options".



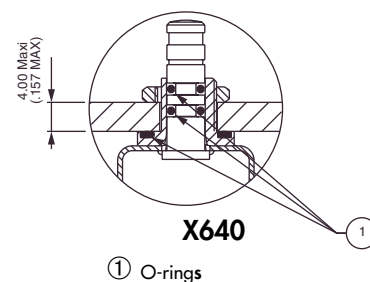
SPECIAL OPTIONS



X640 Front panel sealing by three O-rings. Flatted 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.



F Tin dipped terminals (for PC terminals only)

X935 C-ring on plunger for positive stop

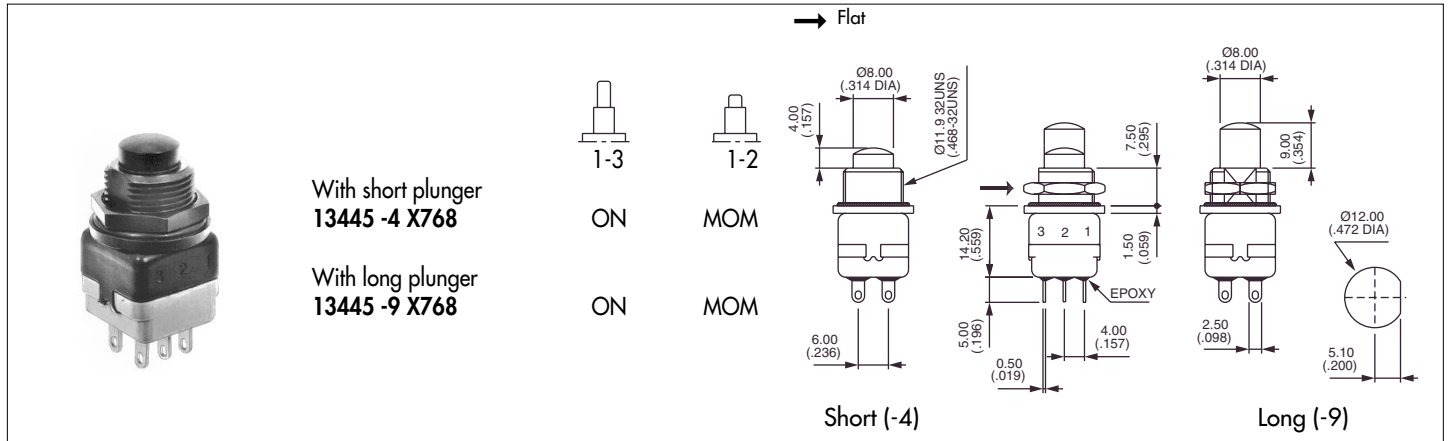
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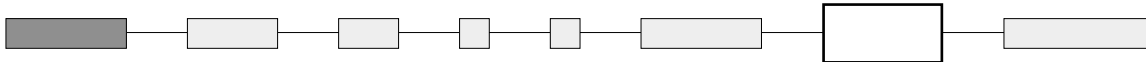
OPTIONS



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



AGENCY APPROVALS



UL

CECC CECC 96401-001

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CECC : consult factory for details of approved models.

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Blank : no agency approval required.

Preferential lists : see specifications.

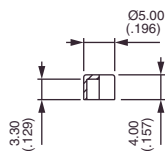
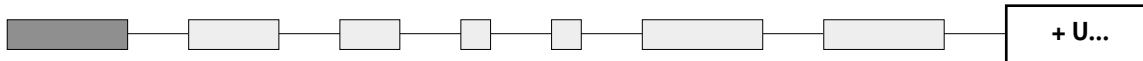
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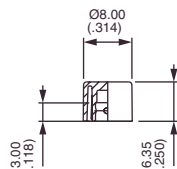
OPTIONS



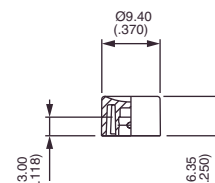
CAPS



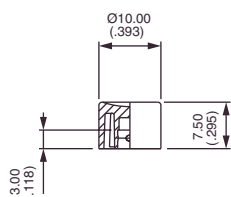
U900



U1140

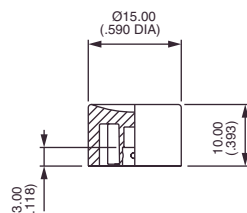


U1720



U480

Standard



U630

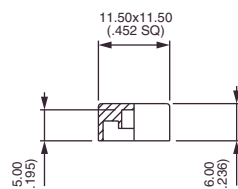


For models with Ø 6,35 (1/4) bushing only.

Cap colours

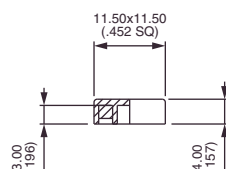
Replace last "0" by number

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



U2020

Square



U2430

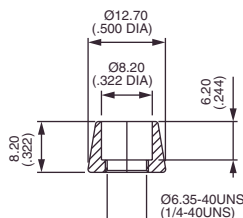
Square

DRESS NUTS

Chrome plated

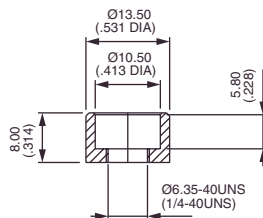


For models with Ø 6,35 (1/4) bushing only.



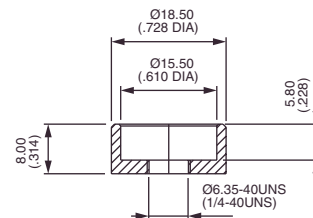
U1636

For cap U1140



U840

For cap U480



U825

For cap U630

Dress nuts are to be ordered separately.