

13000 series

Professional quick-break
momentary pushbutton switches



DISTINCTIVE FEATURES

PC and panel mount models

Bushing Ø 6.35 (1/4) and 11.9 (15/32)

UL and CECC approved



ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
 - silver contacts (A-AD2) : 4 A 30 VDC
 - gold plated contacts (CD) : 100 mA 30 V
- Minimum load (AD2-CD contacts) : 10 mA 50 mV, 10 µA 5 V min.
- Initial contact resistance : 10 mΩ max.
- Insulation resistance : 1,000 MΩ min. at 5 00VDC
- 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	4 A 30 VDC	50,000
AD2	4 A 30 VDC (gold plating : 100 mA 30 VDC max.)	20,000
CD	100 mA 30 VDC	50,000
	Low level or mechanical life	150,000



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 (-40 °F to +185 °F)

The company reserves the right to change specifications without notice.



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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

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

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.



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



2 A 125 VAC/250 VAC



CECC 96401-001

Designed to MIL specifications

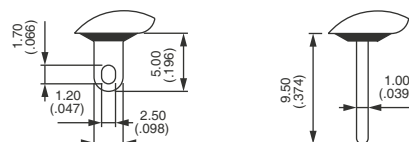
Availability :

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.

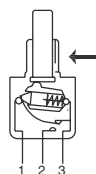


TERMINALS



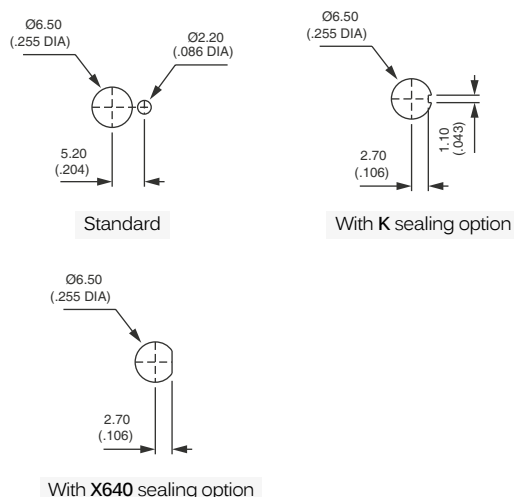
ELECTRICAL FUNCTION

→ KEYWAY



PANEL CUT-OUT

FOR Ø 6,35 (1/4) BUSHING

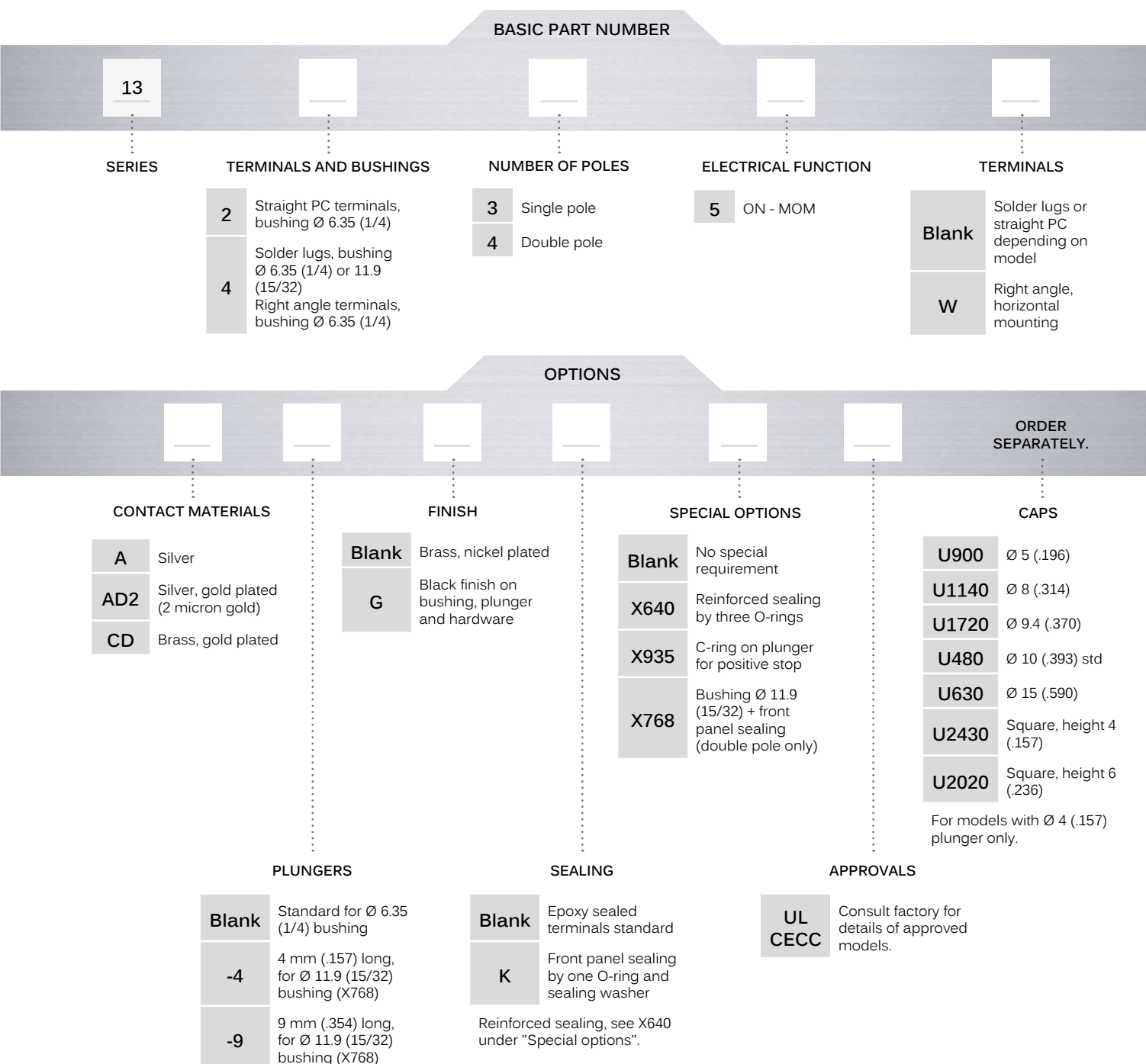


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BUILD YOUR PART NUMBER



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.

- ⚠ **Notice** : please note that not all combinations of above numbers are available. Refer to the following pages for further information.
- 💧 **Sealing boots** are available to protect the switches against dust and water. See "Sealing Boots" section of website.
- 🔧 **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 is presented in the "Hardware" section of website.

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Ø 6.35 BUSHING

SOLDER LUG TERMINALS : 13400



		
Single pole	1-3	1-2
13435	ON	MOM
Double pole		
13445	ON	MOM

Ø 6.35 BUSHING

STRAIGHT PC TERMINALS : 13200



	1-3	1-2
Single pole	ON	MOM
Double pole	ON	MOM

Ø 6.35 BUSHING

RIGHT ANGLE TERMINALS



		
Single pole	1-3	1-2
13435W	ON	MOM

SEALED SWITCH WITH Ø 11.9 FLATTED
BUSHING : X768 - SOLDER LUG TERMINALS

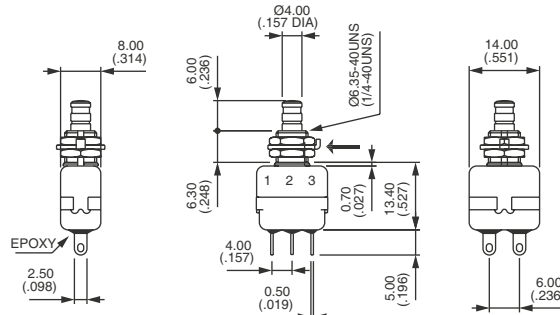


Single pole with short plunger		
13445 -4 X768	ON	MOM
With long plunger		
13445 -9 X768	ON	MOM

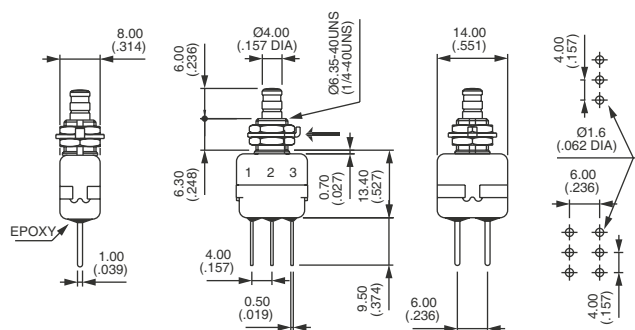
Chrome plated actuator.

Switch guard available for this model : see "Switch guards" section of website.

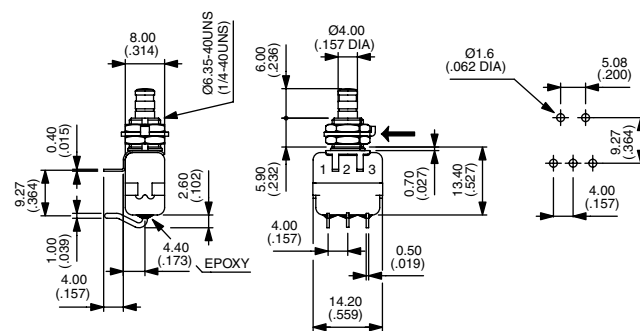
→ KEYWAY



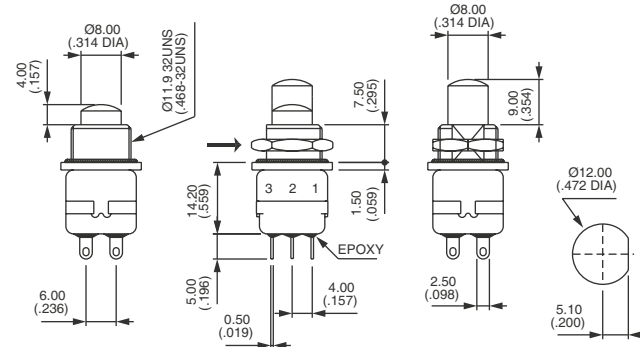
→ KEYWAY



→ KEYWAY



→ FLAT



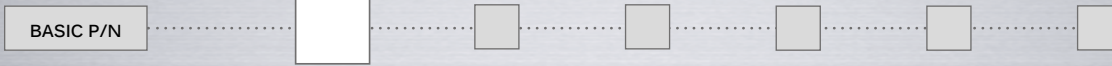
Short (-4)

Long (-9)

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CONTACTS MATERIALS



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

PLUNGERS



Dash compulsory before plunger code.

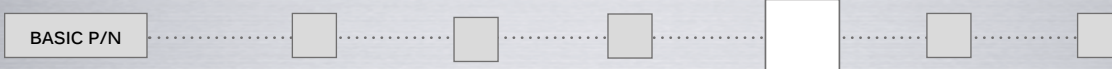
- Blank Standard plunger for Ø 6.35 (1/4) bushing
- 4 4 mm (.157) long plunger for Ø 11.9 (15/32) bushing (X768 option)
- 9 9 mm (.354) long plunger for Ø 11.9 (15/32) bushing (X768 option)

FINISH



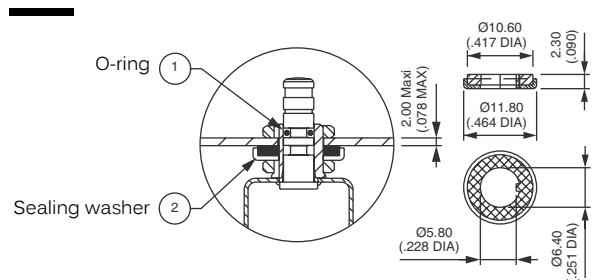
- Blank Bright chrome finish
- G Black finish on bushing, actuator and hardware

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.

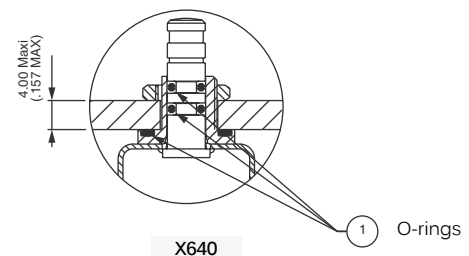
Reinforced sealing : see X640 under "Special options".



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.
- X935 C-ring on plunger for positive stop
- X768 Sealed switch with Ø 11.9 (15/32) flatted bushing. Chrome plated actuator. Solder lug terminals, double pole. Contact and finish options available. See above.



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AGENCY APPROVALS

BASIC P/N

UL

CECC CECC 96401-001

Blank No agency approval required.

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.