

# 600H and 600NH series

## Toggle switches - high amperage

*Distinctive features and specifications*



### Construction

Terminal and contact support are manufactured from a single piece of metal. The contacts are resistance-welded to the terminal for increased mechanical strength.

### Rating

These switches are suitable for motor loads and power applications up to 15A 250VAC or 10A 400VAC

### Metal or insulated lever

### UL, CSA and NF-VDE (EN 61058-1) approved

## ELECTRICAL SPECIFICATIONS

- Max. current/voltage ratings : see tables below
- Peak current : 30A max. during 1/2 sine, 250VAC
- Initial contact resistance : 10 mΩ max. at 1A 2VDC
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength :
  - 2.000 Vrms 50 Hz min. between terminals
  - 2.500 Vrms 50 Hz min. between terminals and frame
- Electrical life : 10.000 cycles at full load

### Models for peak currents

Models 600SH and 600SNH with silver cadmium oxide contacts are **discontinued**. They will be replaced by switches with silver tin oxide contacts.

### APPROVED RATINGS

| APPROVED RATINGS       |                               |                          |          |                                        |                     |
|------------------------|-------------------------------|--------------------------|----------|----------------------------------------|---------------------|
| MODELS                 | FUNCTIONS                     | 600H - 600NH             |          |                                        |                     |
|                        |                               | UL                       | CSA      | NF-VDE                                 |                     |
|                        |                               | UL 1054                  | CSA 22-2 | EN 61058-1                             |                     |
| Single and double pole | ON - OFF (1)                  | 15A 1/2 HP<br>125-250VAC |          | 10(4)A<br>400VAC<br><br>T 85/55 (600H) |                     |
|                        | ON - ON (6)                   |                          |          |                                        |                     |
|                        | Other<br>(4-5-7-8-9)          | 10A 1/2 HP<br>125-250VAC |          |                                        |                     |
| Three pole             | ON - OFF (1)<br>& ON - ON (6) | 15A 1/2 HP<br>125-250VAC |          |                                        | T 125/55<br>(600NH) |
|                        | Other<br>(4-5-7-8-9)          | 10A 1/2 HP<br>125-250VAC |          |                                        |                     |

### - FOR INFORMATION -

Max. current/voltage rating w. resistive load

| Functions           | Ratings                              | Electrical life |
|---------------------|--------------------------------------|-----------------|
| ON - OFF<br>ON - ON | 15A 250VAC<br>10A 24VDC<br>15A 12VDC | 10.000 cycles   |
| ON OFF ON           | 15A 250VAC                           | 6.000 cycles    |
| Other               | 15A 125VAC<br>12A 250VAC<br>5A 25VDC | 10.000 cycles   |

## MATERIALS

- Case : polyester UL94-V0
- Actuator :
  - 600H : brass, nickel plated
  - 600NH : black polyamide
- Bushing : brass, nickel plated
- Contacts : silver/nickel alloy

## GENERAL SPECIFICATIONS

- Torque : 1,50 Nm (1.10 Ft.lb) max. applied to nut
- Panel thickness : 4,5 mm (.177) max. between 2 nuts
- Operating temperature : -20°C to +55°C

# 600H and 600NH series

Toggle switches - high amperage

Specifications

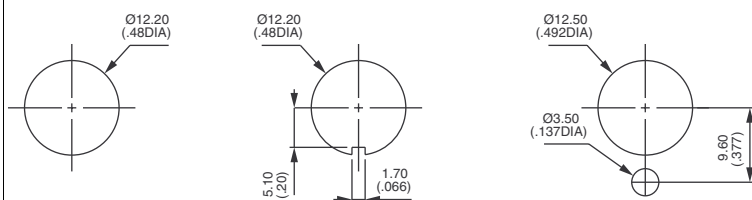
## AGENCY APPROVALS



**Availability** : see chart on previous page.

**Marking** : approved models are standard marked.

## PANEL CUT-OUT



## MOUNTING RECOMMENDATIONS

### Connection

- For quick-connect terminals, use 6,3 x 0,8 mm normalized female connectors.
- For screw terminals, use :  
either 1,5 mm<sup>2</sup> or 2,5 mm<sup>2</sup> rigid wires,  
or prepared stripped and tin plated flexible wires,  
or prepared flexible wires with crimped termination per EN 50027 (DIN 46228)

### Ground connector

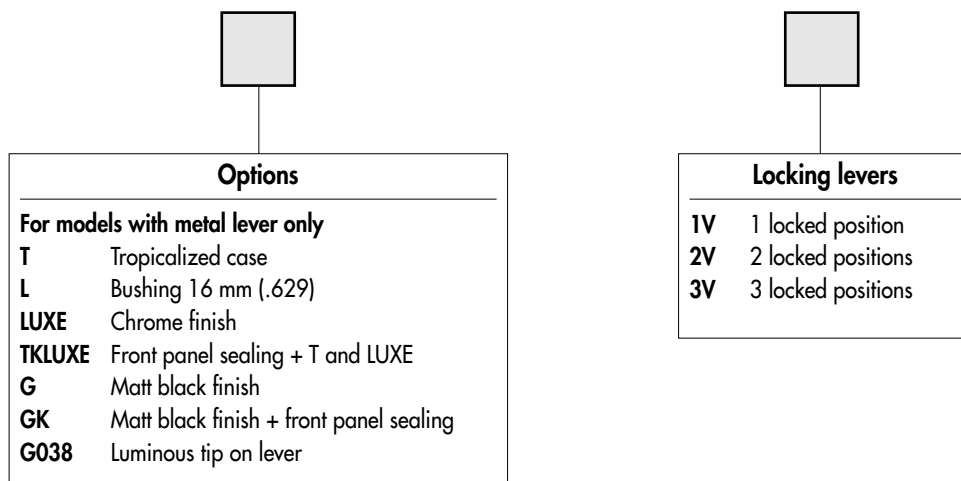
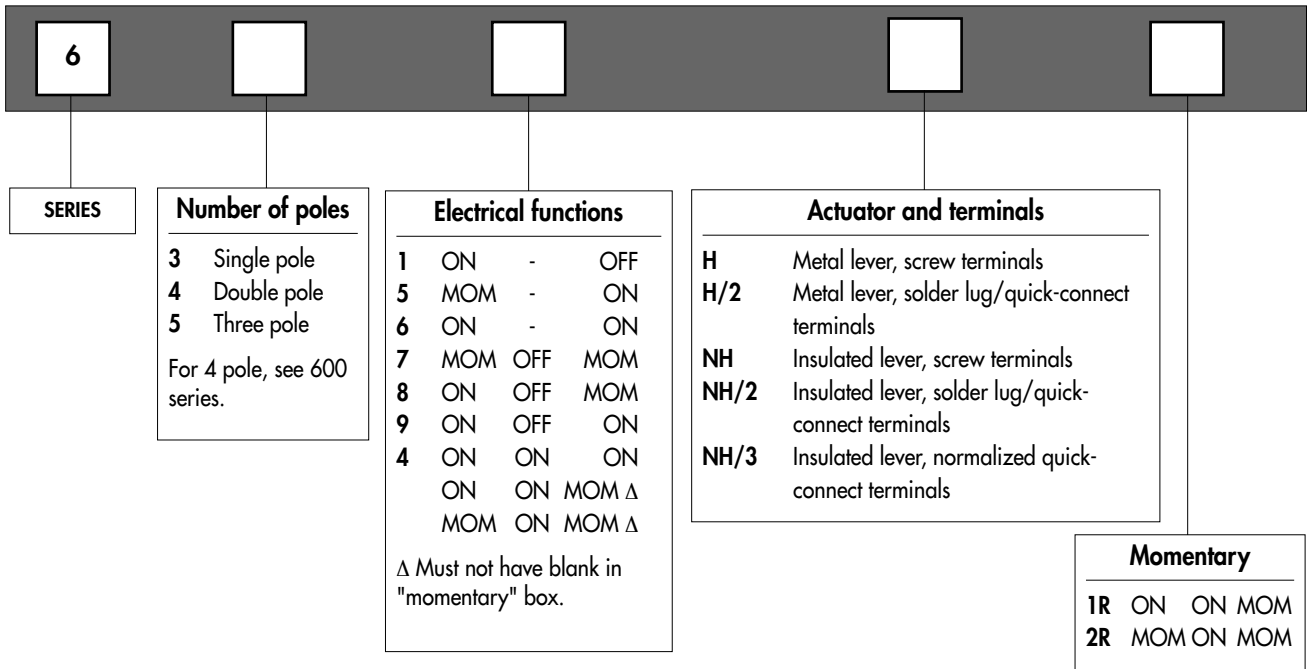
Compulsory if the panel is not metallic or not connected to ground. Should also be used when front face nut is of plastic material.

Order separately, see section I.

# 600H and 600NH series

## Toggle switches - high amperage

### Overview



### ABOUT THIS SERIES

**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.

**Security caps** are available to prevent inadvertent lever operation. They are presented in section I.



**Sealing boots** are available on 600H series to protect the switches against dust and water. They are presented in section H.



**Mounting accessories** : standard hardware supplied with all models :

- 600H and series : 1 hex nut U166 and 1 knurled nut U411  
- 600NH series : 1 hex nut U166 and 1 knurled nut U522  
Standard and special hardware are presented in section I.



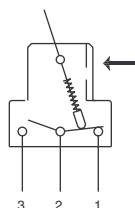
**Packaging unit** : 25 pieces.

# 600H series

Toggle switches - high amperage - metal lever

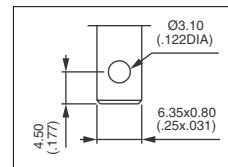
Solder lug/quick-connect terminals - screw terminals

→ Keyway

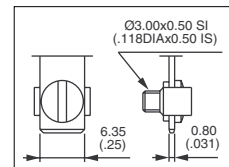


- 2 and 3 maintained or momentary positions
- Solder lug/quick-connect terminals 6,35 x 0,8 (.250 x .031) or screw terminals + clamp
- 1, 2 and 3 pole configurations
- Normalized quick-connect terminals (/3) optional. On request.

600H/2



600H



MODEL  
STRUCTURE

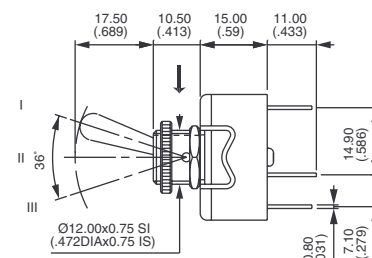
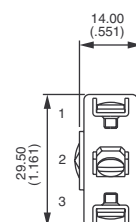


## Single pole

→ Keyway



|            |             | III | II  | I   |
|------------|-------------|-----|-----|-----|
|            |             | 2-1 |     | 2-3 |
| Solder lug | Screw term. |     |     |     |
| 631H/2     | 631H        | ON  | -   | OFF |
| 635H/2     | 635H        | MOM | -   | ON  |
| 636H/2     | 636H        | ON  | -   | ON  |
| 637H/2     | 637H        | MOM | OFF | MOM |
| 638H/2     | 638H        | ON  | OFF | MOM |
| 639H/2     | 639H        | ON  | OFF | ON  |

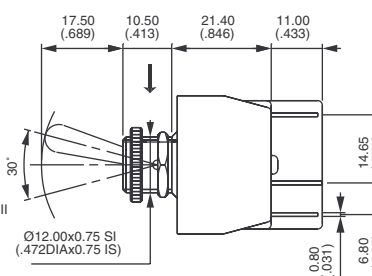
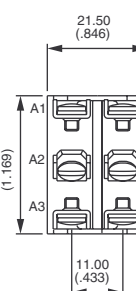


## Double pole

→ Keyway



|            |             | III | II  | I   |
|------------|-------------|-----|-----|-----|
|            |             | 2-1 |     | 2-3 |
|            |             | 5-4 |     | 5-6 |
| Solder lug | Screw term. |     |     |     |
| 641H/2     | 641H        | ON  | -   | OFF |
| 644H/2     | 644H*       | ON  | ON  | ON  |
| 644H/2-1R  | 644H-1R*    | ON  | ON  | MOM |
| 644H/2-2R  | 644H-2R*    | MOM | ON  | MOM |
| 645H/2     | 645H        | MOM | -   | ON  |
| 646H/2     | 646H        | ON  | -   | ON  |
| 647H/2     | 647H        | MOM | OFF | MOM |
| 648H/2     | 648H        | ON  | OFF | MOM |
| 649H/2     | 649H        | ON  | OFF | ON  |



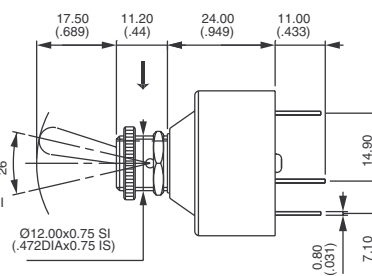
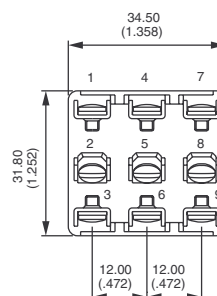
\* Function 4 : SP in DP case - see end of catalogue.

## Three pole

→ Keyway



|            |             | III | II  | I   |
|------------|-------------|-----|-----|-----|
|            |             | 2-1 |     | 2-3 |
|            |             | 5-4 |     | 5-6 |
|            |             | 8-7 |     | 8-9 |
| Solder lug | Screw term. |     |     |     |
| 651H/2     | 651H        | ON  | -   | OFF |
| 655H/2     | 655H        | MOM | -   | ON  |
| 656H/2     | 656H        | ON  | -   | ON  |
| 657H/2     | 657H        | MOM | OFF | MOM |
| 658H/2     | 658H        | ON  | OFF | MOM |
| 659H/2     | 659H        | ON  | OFF | ON  |



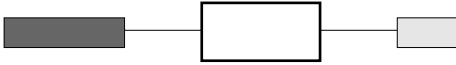
# 600H series

Toggle switches - high amperage - metal lever

OPTIONS

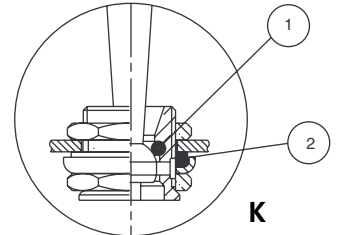


## OPTIONS FOR 600H SERIES ONLY

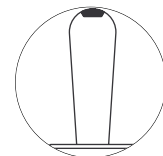


Complete above box with desired options in the same order as below

- T** Tropicalized diallylphthalate case (-40°C to +85°C)
- K** Front panel sealing by 1 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
- L** Special threaded bushing, length 16 mm (.629)
- LUXE** Chrome plated lever and cap nut U117
- TK LUXE** Options T, K and LUXE.
- G** Matt black finish on bushing, lever and nuts. Includes tropicalization (option T)
- GK** Front panel sealing by O-ring and sealing washer (as described in option TK LUXE)  
+ option G
- G038** Option G + fluorescent tip on lever. White fluorescent tip becomes luminous when submitted to ultra violet rays.



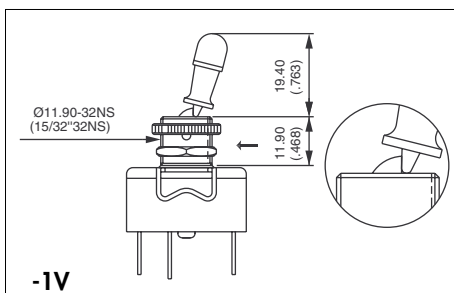
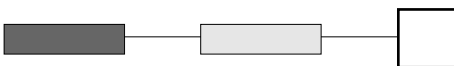
① O-ring ② Sealing washer



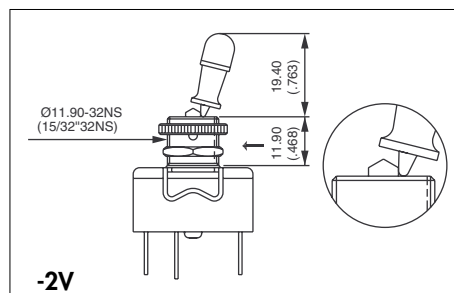
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## LOCKING LEVERS (1 and 2 pole models)

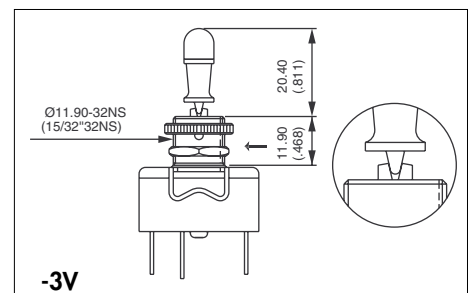
For 3-pole models, refer to 6000 series.



1 locked position



2 locked positions

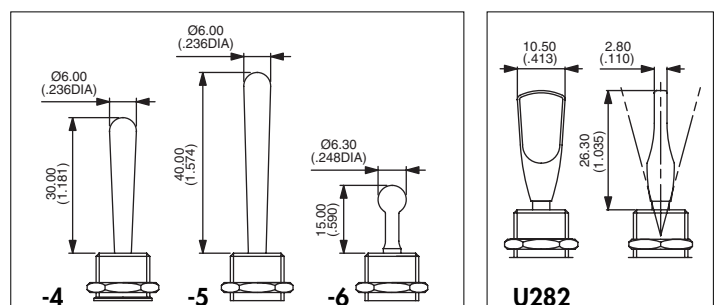


3 locked positions

→ Keyway

## ACTUATOR OPTIONS (1 and 2 pole models)

- 4** 30 mm (1.181) long actuator
- 5** 40 mm (1.574) long actuator
- 6** Retro style actuator (gold plated or chrome plated : on request)
- Ergonomic flat plastic actuator : add U282 at the end of switch model number.



# 6-600H series

Toggle switches - metal lever

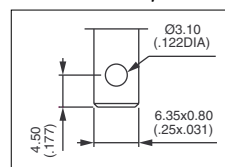
## SPECIFICATIONS

- Max. current/voltage rating with resistive load : 6A 250VAC and 125VAC
- Initial contact resistance : 10mΩ max. at 1A 2VDC
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.500 Vrms 50 Hz min. between terminals  
2.500 Vrms 50 Hz between terminals and frame
- Electrical life at full load : 10.000 cycles
- Torque : 1,50 Nm (1.10 Ft.lb) max. applied to nut
- Panel thickness : 4,5 mm (.177) max. between 2 nuts
- Operating temperature : -20°C to +55°C
- Hardware supplied : 1 hex nut U166 and 1 knurled nut U411

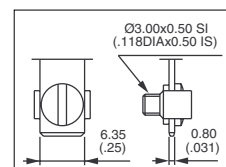
## MATERIALS

- Case : melamine/polyester
- Actuator : brass, nickel plated
- Bushing : brass, nickel plated
- Contacts : copper, silver plated

6-600H/2



6-600H



## Single pole

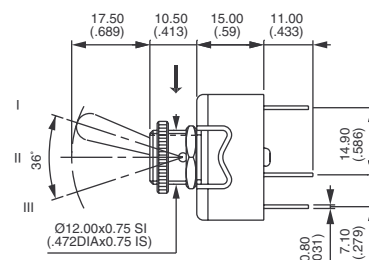
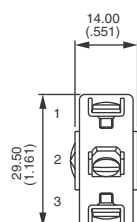
→ Keyway



Solder lug  
**6-631H/2**  
**6-636H/2**  
**6-639H/2**

Screw term.  
**6-631H**  
**6-636H**  
**6-639H**

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



## Double pole

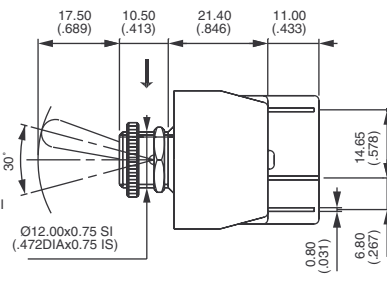
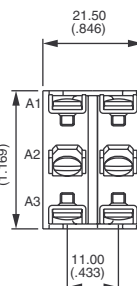
→ Keyway



Solder lug  
**6-641H/2**  
**6-646H/2**  
**6-649H/2**

Screw term.  
**6-641H**  
**6-646H**  
**6-649H**

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



## Three pole

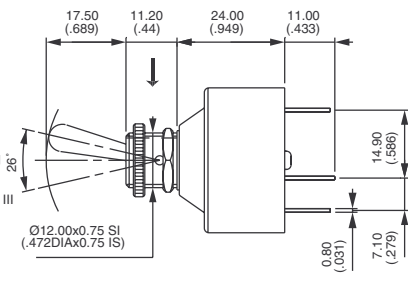
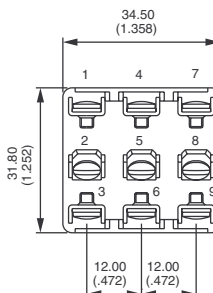
→ Keyway



Solder lug  
**6-651H/2**  
**6-656H/2**  
**6-659H/2**

Screw term.  
**6-651H**  
**6-656H**  
**6-659H**

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



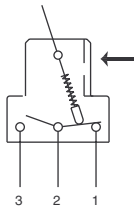
# 600NH series

Toggle switches - high amperage - insulated lever

Solder lug/quick-connect terminals - screw terminals

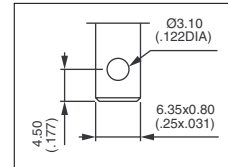
MODEL  
STRUCTURE

→ Keyway

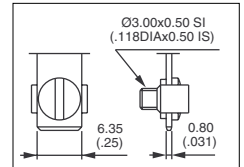


- 2 and 3 maintained or momentary positions
- Solder lug/quick-connect terminals 6,35 x 0,8 (.250 x .031) or screw terminals + clamp
- 1, 2 and 3 pole configurations
- Normalized quick-connect terminals (/3) optional. On request.

600NH/2



600NH



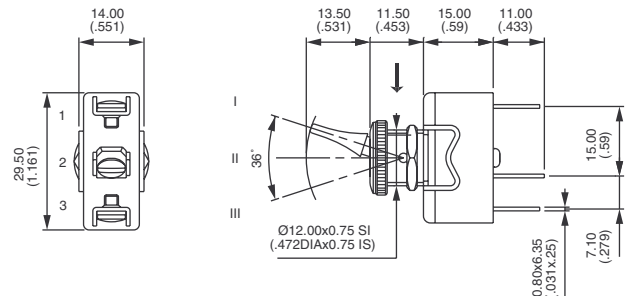
## Single pole

→ Keyway



Solder lug Screw term.

|         | III<br>2-1 | II      | I<br>2-3 |
|---------|------------|---------|----------|
| 631NH/2 | 631NH      | ON -    | OFF      |
| 635NH/2 | 635NH      | MOM -   | ON       |
| 636NH/2 | 636NH      | ON -    | ON       |
| 637NH/2 | 637NH      | MOM OFF | MOM      |
| 638NH/2 | 638NH      | ON OFF  | MOM      |
| 639NH/2 | 639NH      | ON OFF  | ON       |



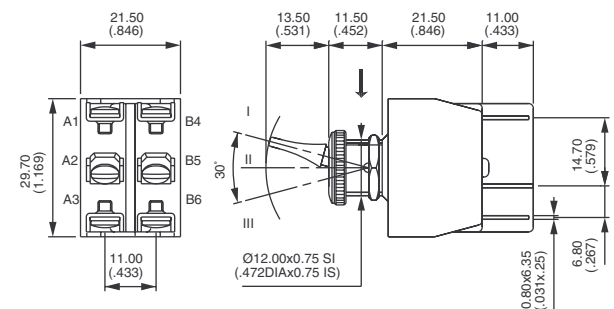
## Double pole

→ Keyway



Solder lug Screw term.

|            | III<br>2-1<br>5-4 | II      | I<br>2-3<br>5-6 |
|------------|-------------------|---------|-----------------|
| 641NH/2    | 641NH             | ON -    | OFF             |
| 644NH/2    | 644NH             | ON ON   | ON              |
| 644NH/2-1R | 644NH-1R*         | ON ON   | MOM             |
| 644NH/2-2R | 644NH-2R*         | MOM ON  | MOM             |
| 645NH/2    | 645NH             | MOM -   | ON              |
| 646NH/2    | 646NH             | ON -    | ON              |
| 647NH/2    | 647NH             | MOM OFF | MOM             |
| 648NH/2    | 648NH             | ON OFF  | MOM             |
| 649NH/2    | 649NH             | ON OFF  | ON              |



\* Function 4 : SP in DP case - see end of catalogue.

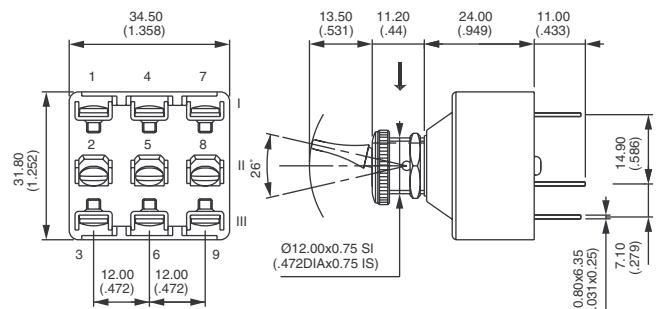
## Three pole

→ Keyway



Solder lug Screw term.

|         | III<br>2-1<br>5-4<br>8-7 | II      | I<br>2-3<br>5-6<br>8-9 |
|---------|--------------------------|---------|------------------------|
| 651NH/2 | 651NH                    | ON -    | OFF                    |
| 655NH/2 | 655NH                    | MOM -   | ON                     |
| 656NH/2 | 656NH                    | ON -    | ON                     |
| 657NH/2 | 657NH                    | MOM OFF | MOM                    |
| 658NH/2 | 658NH                    | ON OFF  | MOM                    |
| 659NH/2 | 659NH                    | ON OFF  | ON                     |



# 6-600NH series

Toggle switches - insulated lever

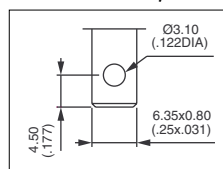
## SPECIFICATIONS

- Max. current/voltage rating with resistive load : 6A 250VAC and 125VAC
- Initial contact resistance : 10mΩ max. at 1A 2VDC
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.500 Vrms 50 Hz min. between terminals  
2.500 Vrms 50 Hz between terminals and frame
- Electrical life at full load : 10.000 cycles
- Torque : 1,50 Nm (1.10 Ft.lb) max. applied to nut
- Panel thickness : 4,5 mm (.177) max. between 2 nuts
- Operating temperature : -20°C to +55°C
- Hardware supplied : 1 hex nut U166 and 1 knurled nut U522

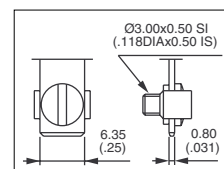
## MATERIALS

- Case : melamine/polyester
- Actuator : black polyamide
- Bushing : brass, nickel plated
- Contacts : copper, silver plated

6-600NH/2



6-600NH



## Single pole

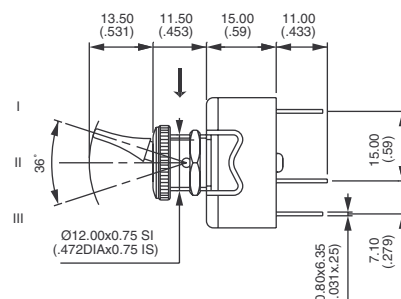
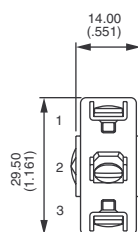
→ Keyway



Solder lug  
6-631NH/2  
6-636NH/2  
6-639NH/2

Screw term.  
6-631NH  
6-636NH  
6-639NH

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



## Double pole

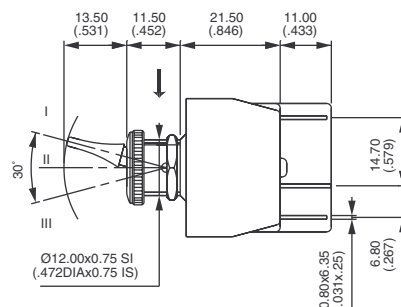
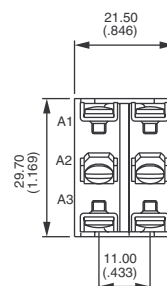
→ Keyway



Solder lug  
6-641NH/2  
6-646NH/2  
6-649NH/2

Screw term.  
6-641NH  
6-646NH  
6-649NH

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



## Three pole

→ Keyway



Solder lug  
6-651NH/2  
6-656NH/2  
6-659NH/2

Screw term.  
6-651NH  
6-656NH  
6-659NH

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

