

# 600H-600NH series

Toggle switches • high amperage



## DISTINCTIVE FEATURES

- Robust mechanism
- High current/voltage rating
- Insulated or metal lever
- UL, CSA and NF-VDE (EN 61058-1) approved



## ELECTRICAL SPECIFICATIONS

- Max. current/voltage ratings : see tables below
- Peak current : 30 A max. during 1/2 sine, 250 VAC
- Initial contact resistance : 10 mΩ max.
- Insulation resistance : 1,000 MΩ min. at 500 VDC
- 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

### 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)                  | 15 A 1/2 HP<br>125-250 VAC |          | 10(4) A<br>400 VAC<br><br>T 85/55 (600H) |
|                        | ON - ON (6)                   |                            |          |                                          |
|                        | Other<br>(4-5-7-8-9)          | 10 A 1/2 HP<br>125-250 VAC |          |                                          |
| Three pole             | ON - OFF (1)<br>& ON - ON (6) | 15 A 1/2 HP<br>125-250 VAC |          | T 125/55<br>(600NH)                      |
|                        | Other<br>(4-5-7-8-9)          | 10 A 1/2 HP<br>125-250 VAC |          |                                          |

### FOR INFORMATION Max. current/voltage rating w. resistive load

| Functions           | Ratings                                    | Electrical life               |
|---------------------|--------------------------------------------|-------------------------------|
| ON - OFF<br>ON - ON | 15 A 250 VAC<br>10 A 24 VDC<br>15 A 12 VDC | 10,000 cycles                 |
| ON OFF ON           | 15 A 250 VAC<br>5 A 24 VDC                 | 6,000 cycles<br>10,000 cycles |
| Other               | 15 A 125 VAC<br>12 A 250 VAC<br>5 A 24 VDC | 10,000 cycles                 |

The company reserves the right to change specifications without notice.



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## 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 (-4 °F to +131 °F)



## MATERIALS

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

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

## AGENCY APPROVALS



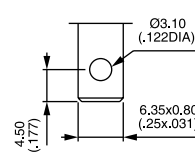
EN 61058-1 EN 61058-1

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

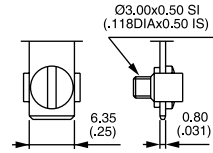
**Marking** : approved models are standard marked.



## TERMINALS



600H/2 & 600NH/2

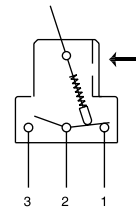


600H & 600NH

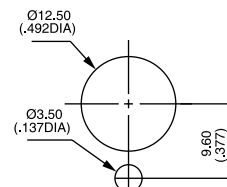
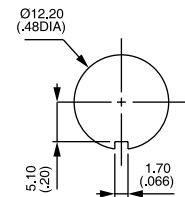
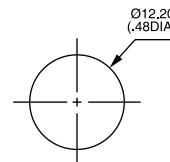


## ELECTRICAL FUNCTIONS

→ KEYWAY



## PANEL CUT-OUT



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## BUILD YOUR PART NUMBER

| BASIC PART NUMBER |                             |                      |           |             |                        |                                                       |  |           |                |
|-------------------|-----------------------------|----------------------|-----------|-------------|------------------------|-------------------------------------------------------|--|-----------|----------------|
| SERIES            | NUMBER OF POLES             | ELECTRICAL FUNCTIONS |           |             | ACTUATOR AND TERMINALS |                                                       |  | MOMENTARY |                |
| 6                 | 3 Single pole               | 1                    | ON        | - OFF       | H                      | Metal lever, screw terminals                          |  |           | -1R ON ON MOM  |
|                   | 4 Double pole               | 5                    | MOM       | - ON        | H/2                    | Metal lever, solder lug/quick-connect terminals *     |  |           | -2R MOM ON MOM |
|                   | 5 Three pole                | 6                    | ON        | - ON        | H/3                    | Metal lever, normalized quick-connect terminals       |  |           |                |
|                   | For 4 pole, see 660 series. | 7                    | MOM       | OFF MOM     | NH                     | Insulated lever, screw terminals                      |  |           |                |
|                   |                             | 8                    | ON        | OFF MOM     | NH/2                   | Insulated lever, solder lug/quick-connect terminals   |  |           |                |
|                   |                             | 9                    | ON        | OFF ON      | NH/3                   | Insulated lever, normalized quick-connect terminals * |  |           |                |
|                   |                             | 4                    | ON ON ON  | MOM Δ MOM Δ |                        |                                                       |  |           |                |
|                   |                             |                      | MOM ON ON | MOM Δ       |                        |                                                       |  |           |                |

Δ Must not have blank in "momentary" box.

\* On request.

| OPTIONS FOR 600H SERIES ONLY     |                                     |  |                |                    |  |                  |                                 |  |  |
|----------------------------------|-------------------------------------|--|----------------|--------------------|--|------------------|---------------------------------|--|--|
| OPTIONS                          |                                     |  | LOCKING LEVERS |                    |  | ACTUATOR OPTIONS |                                 |  |  |
| For models with metal lever only |                                     |  | -1V            | 1 locked position  |  | -4               | 30 mm (1.181) long actuator     |  |  |
| T                                | Tropicalized case                   |  | -2V            | 2 locked positions |  | -5               | 40 mm (1.574) long actuator     |  |  |
| K                                | Front panel sealing                 |  | -3V            | 3 locked positions |  | -6               | Retro style actuator            |  |  |
| L                                | Bushing 16 mm (.629)                |  |                |                    |  | X2595            | Ergonomic flat plastic actuator |  |  |
| LUXE                             | Chrome finish                       |  |                |                    |  |                  |                                 |  |  |
| TKLUXE                           | Front panel sealing + T and LUXE    |  |                |                    |  |                  |                                 |  |  |
| G                                | Black finish                        |  |                |                    |  |                  |                                 |  |  |
| GK                               | Black finish + front panel sealing  |  |                |                    |  |                  |                                 |  |  |
| G-038                            | Black finish + uminous tip on lever |  |                |                    |  |                  |                                 |  |  |



## 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 following pages for further information.
- Switch guards** are available to prevent inadvertent lever operation. See "Switch Guards" section on website.
- Sealing boots** are available on 600H series to protect the switches against dust and water. See "Sealing Boots" section of website.
- 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

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## METAL LEVER - SINGLE POLE



| Solder lug | Screw | A       | III<br>2-1 | II  | I<br>2-3 |
|------------|-------|---------|------------|-----|----------|
| 631H/2     | 631H  | 30° ON  | -          | OFF |          |
| 635H/2     | 635H  | 26° MOM | -          | ON  |          |
| 636H/2     | 636H  | 30° ON  | -          | ON  |          |
| 637H/2     | 637H  | 30° MOM | OFF        | MOM |          |
| 638H/2     | 638H  | 36° ON  | OFF        | MOM |          |
| 639H/2     | 639H  | 36° ON  | OFF        | ON  |          |

## METAL LEVER - DOUBLE POLE



| Solder lug | Screw    | A       | III<br>2-1<br>5-4 | II  | I<br>2-3<br>5-6 |
|------------|----------|---------|-------------------|-----|-----------------|
| 641H/2     | 641H     | 26° ON  | -                 | OFF |                 |
| 644H/2     | 644H*    | 33° ON  | ON                | ON  |                 |
| 644H/2-1R  | 644H-1R* | 33° ON  | ON                | MOM |                 |
| 644H/2-2R  | 644H-2R* | 33° MOM | ON                | MOM |                 |
| 645H/2     | 645H     | 26° MOM | -                 | ON  |                 |
| 646H/2     | 646H     | 26° ON  | -                 | ON  |                 |
| 647H/2     | 647H     | 26° MOM | OFF               | MOM |                 |
| 648H/2     | 648H     | 26° ON  | OFF               | MOM |                 |
| 649H/2     | 649H     | 32° ON  | OFF               | ON  |                 |

## METAL LEVER - THREE POLE



| Solder lug | Screw | A       | III<br>2-1<br>5-4<br>8-7 | II  | I<br>2-3<br>5-6<br>8-9 |
|------------|-------|---------|--------------------------|-----|------------------------|
| 651H/2     | 651H  | 24° ON  | -                        | OFF |                        |
| 655H/2     | 655H  | 15° MOM | -                        | ON  |                        |
| 656H/2     | 656H  | 24° ON  | -                        | ON  |                        |
| 657H/2     | 657H  | 24° MOM | OFF                      | MOM |                        |
| 658H/2     | 658H  | 24° ON  | OFF                      | MOM |                        |
| 659H/2     | 659H  | 28° ON  | OFF                      | ON  |                        |

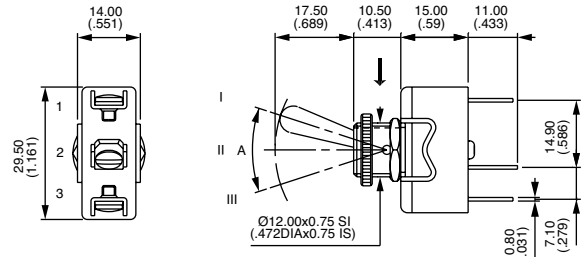
## INSULATED LEVER - SINGLE POLE



| Solder lug | Screw | A       | III<br>2-1 | II  | I<br>2-3 |
|------------|-------|---------|------------|-----|----------|
| 631NH/2    | 631NH | 28° ON  | -          | OFF |          |
| 635NH/2    | 635NH | 24° MOM | -          | ON  |          |
| 636NH/2    | 636NH | 28° ON  | -          | ON  |          |
| 637NH/2    | 637NH | 33° MOM | OFF        | MOM |          |
| 638NH/2    | 638NH | 33° ON  | OFF        | MOM |          |
| 639NH/2    | 639NH | 33° ON  | OFF        | ON  |          |

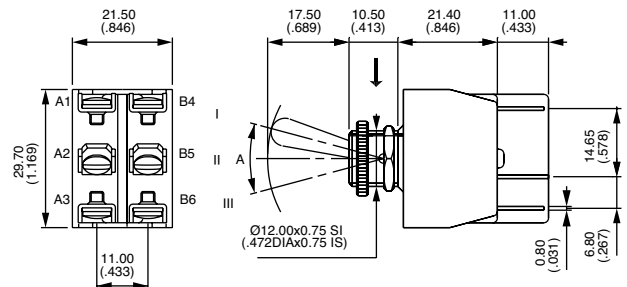
→ KEYWAY

A = Angle of throw



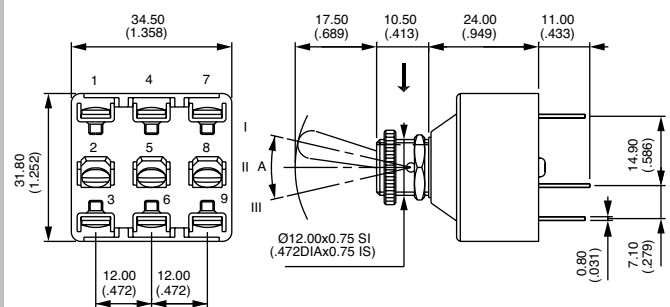
Angle of throw with K sealing option :  
functions 1, 5, 6, 7 : 26° - functions 8, 9 : 32°

→ KEYWAY

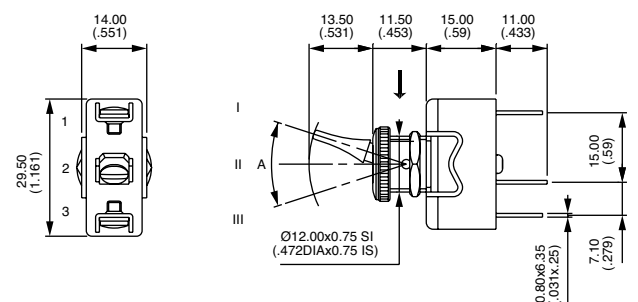


\* Function 4 : SP in DP case - see "Technical information" on website

→ KEYWAY



→ KEYWAY



# 600H-600NH series

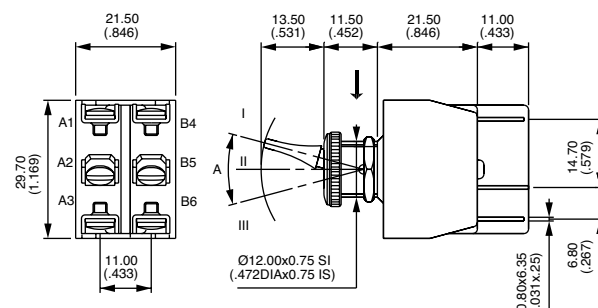
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## INSULATED LEVER - DOUBLE POLE



| Solder lug | Screw     | A       | III<br>2-1<br>5-4 | II  | I<br>2-3<br>5-6 |
|------------|-----------|---------|-------------------|-----|-----------------|
| 641NH/2    | 641NH     | 26° ON  | -                 | OFF |                 |
| 644NH/2    | 644NH*    | 30° ON  | ON                | ON  |                 |
| 644NH/2-1R | 644NH-1R* | 26° ON  | ON                | MOM |                 |
| 644NH/2-2R | 644NH-2R* | 26° MOM | ON                | MOM |                 |
| 645NH/2    | 645NH     | 26° MOM | -                 | ON  |                 |
| 646NH/2    | 646NH     | 26° ON  | -                 | ON  |                 |
| 647NH/2    | 647NH     | 26° MOM | OFF               | MOM |                 |
| 648NH/2    | 648NH     | 30° ON  | OFF               | MOM |                 |
| 649NH/2    | 649NH     | 30° ON  | OFF               | ON  |                 |

→ KEYWAY



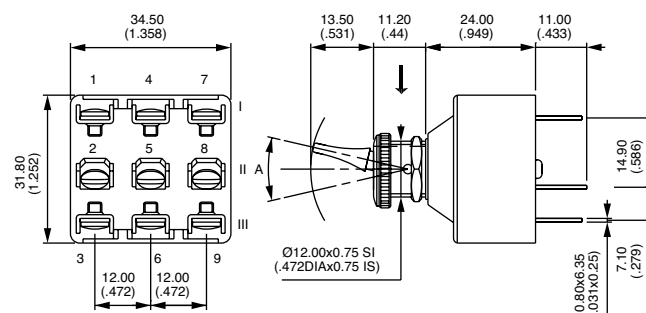
\* Function 4 : SP in DP case - see "Technical information" on website

## INSULATED LEVER - THREE POLE



| Solder lug | Screw | A       | III<br>2-1<br>5-4<br>8-7 | II  | I<br>2-3<br>5-6<br>8-9 |
|------------|-------|---------|--------------------------|-----|------------------------|
| 651NH/2    | 651NH | 24° ON  | -                        | OFF |                        |
| 655NH/2    | 655NH | 15° MOM | -                        | ON  |                        |
| 656NH/2    | 656NH | 24° ON  | -                        | ON  |                        |
| 657NH/2    | 657NH | 24° MOM | OFF                      | MOM |                        |
| 658NH/2    | 658NH | 24° ON  | OFF                      | MOM |                        |
| 659NH/2    | 659NH | 28° ON  | OFF                      | ON  |                        |

→ KEYWAY



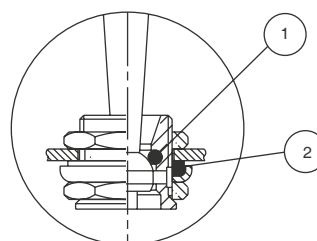
All models also available with normalized quick-connect terminals H/3 or NH/3.

## OPTIONS

BASIC P/N

For 600H series only

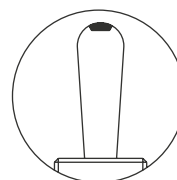
- T** Tropicalized diallylphthalate case (-40 °C to +85 °C)  
(-40 °F to +185 °F)
- K** Front panel sealing by 1 O-ring and sealing washer. Protects the switch against water and dust. Panel seal withstands 1 bar pressure and remains sealed even when switch is operated
- L** Special threaded bushing, length 16 mm (.629)
- LUXE** Chrome plated lever and cap nut U117
- TK LUXE** Options T, K and LUXE.
- G** Black finish on bushing, lever and nuts. Includes tropicalization (option T) and locking ring U12.
- GK** Option G + front panel sealing by O-ring and sealing washer (as described in option K)
- G-038** Option G + fluorescent tip on lever. White fluorescent tip becomes luminous when submitted to ultra violet rays.



GK

① O-ring

② Sealing washer

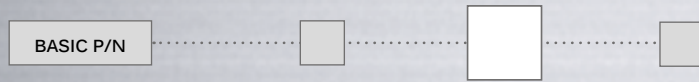


G-38

# 600H-600NH series

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## LOCKING LEVERS

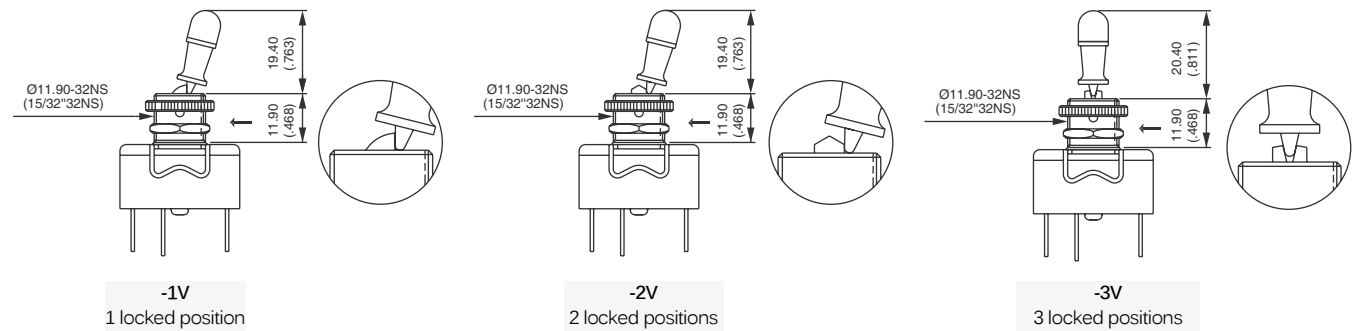


For 600H series only

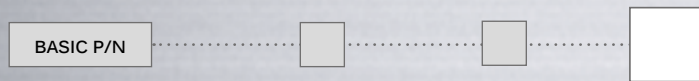
For 1 and 2 pole models.

For 3-pole models, refer to 6000 series.

→ KEYWAY



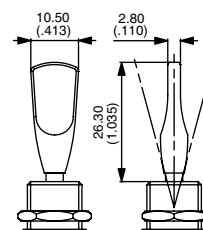
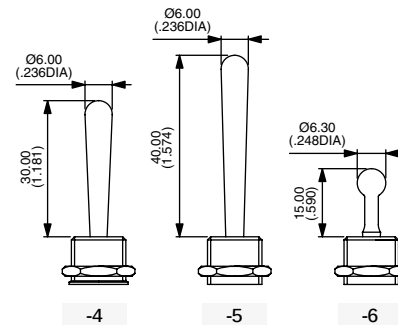
## ACTUATOR OPTIONS



For 600H series only

For 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)
- X2595 Ergonomic flat plastic actuator



X2595