

# A1-A01-A02-A03 series

Industrial controls

*Distinctive features*

The A01 and A02 series offer ranges of :

- pushbutton switches, illuminated or not
- indicators
- 2 or 3 position keylock switches
- 2 or 3 position rotary lever switches
- emergency stop switches

with rectangular, square or round operators.

**New!**

- Custom engraved aluminium pushbutton switches, A1 series
- Switch enclosures
- Pushbutton switches and indicators, A03 series

- Environmental protection : IP65
- Modular construction
- Electrical life : 50.000 cycles min.
- Screen engraving or insertable legends on request
- Approvals



BS RIA 20 Shock & Vibration



Each sub-assembly has to be ordered separately.

## A01 - A1 - A03 series

- Panel cut-out :
  - Ø 16 mm (.630), except :
    - flush mount round : Ø 22 mm (.866)
    - flush mount rectangular : 20.60 x 26.70 mm
    - flush mount square : 20.60 x 20.60 mm
  - A1 series : Ø 22 mm (.866)
  - A03 series : round or square Ø 22 (.866) flush mount : Ø 30 mm (1.378)
- 1, 2, 3 and 4 poles
- Solder lug/quick-connect terminals
- Contacts : silver, gold plated
- Current/voltage rating :  
6A 250VAC max. - 10mA 5VAC min.
- Lamp : filament, neon or LED

## A02 series

- Panel cut-out :
    - round or square : Ø 22 mm (.866)
    - rectangular : 29,5 x 21,5 mm (1.160x.846)
    - flush mount : Ø 30 mm (1.378)
  - 1 and 2 poles
  - Screw terminals (optional : quick-connect term.)
  - Contacts : silver
  - Current/voltage rating : 12A 380VAC  
16A 250VAC max. - 25mA 5VAC min.
  - Lamp : filament, neon, LED  
or special multi-LED array
- Option : end cap terminal guard. Order separately (see end of A02 series).

**Packaging unit :**

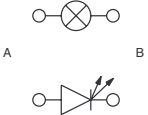
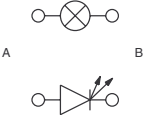
A1 : 25 pieces - A01 : 20 pieces (except pushbuttons: 25 pieces) - A02 : 25 pieces - A03 : 10 pieces.

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

# A1-A01-A02-A03 series

## Industrial controls

Specifications for pushbutton, keylock and rotary switches

| ELECTRICAL SPECIFICATIONS  |   |   |
|--|---|---|
|  | A01 - A1 - A03  | A02   |
| <ul style="list-style-type: none"> <li>• <b>Function :</b></li> <li>• <b>Current/voltage rating :</b></li> <li>• <b>Contact gap</b></li> <li>• <b>Initial contact resistance :</b></li> <li>• <b>Insulation resistance :</b></li> <li>• <b>Dielectric strength :</b></li> <li>• <b>Electrical life (resistive load) :</b></li> <li>• <b>Insulation :</b></li> <li>• <b>Lamp life :</b></li> </ul>        | <p>Momentary<br/>or maintained action</p> <p>10mA 5VAC min.<br/>6A 250VAC max. - 6A 12VDC max.</p> <p>&gt; 1 mm (.039)</p> <p>10mΩ max. at 1A 4VDC</p> <p>50 MΩ min.</p> <p>750V between open contacts<br/>5KV live to accessible</p> <p>50.000 cycles</p> <p>Class 2</p> <p>LED : 60.000 h min. to 75% relative<br/>luminosity - Filament : approx. 5.000 h<br/>Neon : approx. 10.000 h</p>  | <p>Momentary<br/>or maintained action</p> <p>25mA 5VAC min.<br/>12A 380VAC - 16A 250VAC max.<br/>12A 12VDC max.</p> <p>Double break 2 x 1,5 mm (.059)</p> <p>10mΩ max. at 1A 4VDC</p> <p>50 MΩ min.</p> <p>2KV between open contacts<br/>4KV live to accessible</p> <p>50.000 cycles</p> <p>Class 2</p> <p>LED : 60.000 h min. to 75 % relative<br/>luminosity - Filament : approx. 5.000 h<br/>Neon : approx. 10.000 h</p>   |
| <ul style="list-style-type: none"> <li>• <b>Lamp circuit diagrams</b></li> </ul>   |   |   |
| GENERAL SPECIFICATIONS   |   |   |
|  | A01 - A1 - A03  | A02   |
| <ul style="list-style-type: none"> <li>• <b>Min. mechanical life :</b></li> <li>• <b>Panel thickness</b></li> <li>• <b>Operating temperature :</b></li> <li>• <b>Solder heat resistance :</b><br/>(IEC 68-2-20Tb, method 2)</li> <li>• <b>Degree of environmental protection (IEC 529 )</b></li> <li>• <b>Lamps :</b></li> <li>• <b>Switch terminals :</b></li> <li>• <b>Lamp terminals :</b></li> </ul> | <p>Pushb. momentary : 1 million cycles<br/>Pushb. maintained : 100.000 cycles<br/>Keylock and rotary : 100.000 cycles</p> <p>8 mm (.315) max.</p> <p>-20°C to +55°C</p> <p>350°C, 5 sec.</p> <p>IP 65 front of panel<br/>IP 40 back of panel</p> <p>Midget Grooved T1<sup>3</sup>/<sub>4</sub>,<br/>filament, LED or neon</p> <p>Solder/quick-connect 2,8 mm (.110)</p> <p>Solder/quick-connect 2,8 mm (.110)</p>   | <p>Pushb. momentary: 1 million cycles<br/>Pushb. maintained : 100.000 cycles<br/>Keylock and rotary : 100.000 cycles</p> <p>8 mm (.315) max.</p> <p>-20°C to +85°C</p> <p>350°C, 5 sec.</p> <p>IP 65 front of panel<br/>IP 40 back of panel</p> <p>Midget Grooved T1<sup>3</sup>/<sub>4</sub>,<br/>filament, LED or neon<br/>Special multi-LED array</p> <p>M3 screws - wire 2 x 0,75 mm<sup>2</sup> max.</p> <p>M3 screws<br/>Flexible wire 2 x 2,5 mm<sup>2</sup> max.<br/>Rigid wire 4 mm<sup>2</sup> max.</p> |

Specifications for emergency stop switches : see pages 10 and 22.

For screen engraving or film legends, contact APEM.

# A1 series

## Engraved aluminium flush mounting pushbuttons and indicators

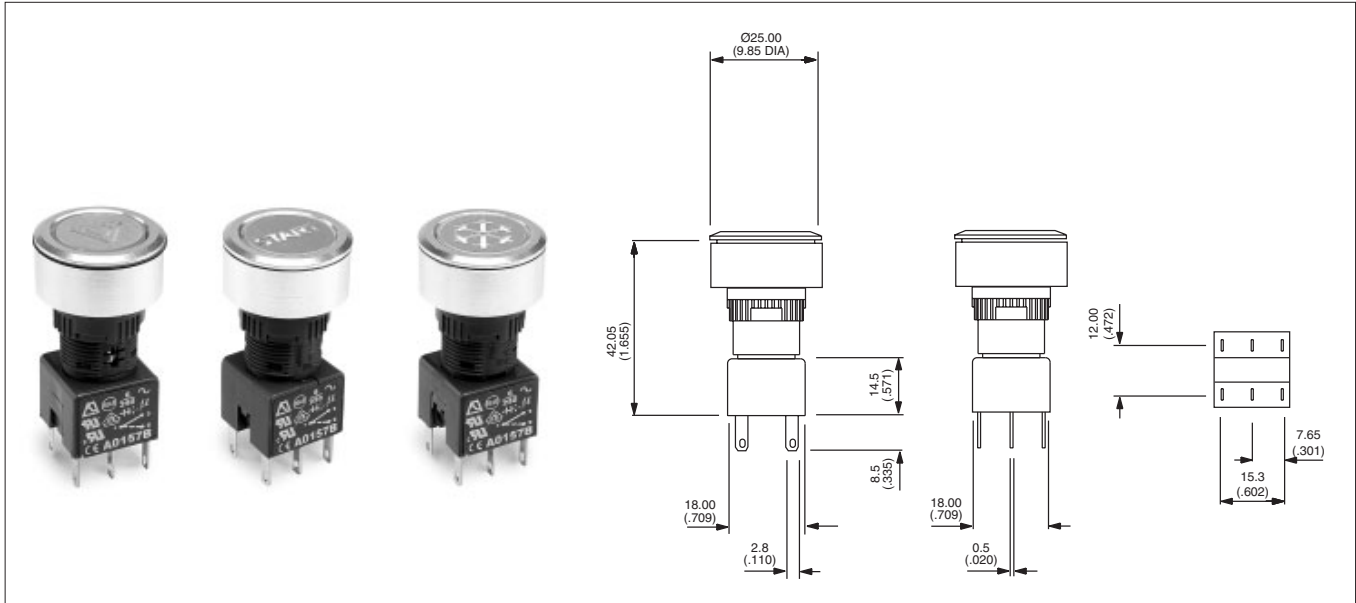
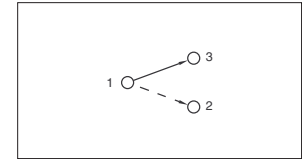
Panel cut-out Ø 22 (.866)

### A pushbutton assembly requires :

engraved screen + lamp (if illuminated) + operator + switch block + flush mount bezel.

To order these elements, select desired model numbers from the table below.

**Example :** pushbutton, round, illuminated, sealed to IP65, latching, single pole with "start" engraving, 24V blue LED and flush mounting bezel = A1PCA1X103K403.



|   |                           |  |   |   |   |                                       |  |  |
|---|---------------------------|--|---|---|---|---------------------------------------|--|--|
| <b>A1</b>   |                           |  |   |   |   |                                       |  |  |
| <b>Switch Type</b><br>P - pushbutton<br>I - indicator | <b>Bezel</b><br>C - round | <b>Illumination</b><br>A - illuminated<br>B - non-illum. | <b>Sealing</b><br>0 - unsealed<br>1 - sealed IP65 | <b>Function</b><br>0 - indicator<br>X - latching<br>Y - momentary | <b>Switch block</b><br>0 - indicator<br>1 - single pole<br>2 - double pole<br>5 - three pole<br>3 - four pole | <b>Accessories</b><br>03 - flushmount |  |  |
|   |                           |  |   |   |   | <b>Bulb</b>                           |  |  |
|   |                           |  |   |   |   | A1 - filament 6.3V                    |  |  |
|   |                           |  |   |   |   | B1 - filament 14V                     |  |  |
|   |                           |  |   |   |   | C1 - filament 28V                     |  |  |
|   |                           |  |   |   |   | D1 - filament 36V                     |  |  |
|   |                           |  |   |   |   | E1 - filament 48V                     |  |  |
|   |                           |  |   |   |   | F1 - filament 60V                     |  |  |
|   |                           |  |   |   |   | G1 - Neon 110V                        |  |  |
|   |                           |  |   |   |   | H1 - Neon 220V                        |  |  |
|   |                           |  |   |   |   | I1 - Led 6V red                       |  |  |
|   |                           |  |   |   |   | I2 - Led 6V green                     |  |  |
|   |                           |  |   |   |   | I3 - Led 6V amber                     |  |  |
|   |                           |  |   |   |   | J1 - Led 12V red                      |  |  |
|   |                           |  |   |   |   | J2 - Led 12V green                    |  |  |
|   |                           |  |   |   |   | J3 - Led 12V amber                    |  |  |
|   |                           |  |   |   |   | J4 - Led 12V blue                     |  |  |
|   |                           |  |   |   |   | J5 - Led 12V white                    |  |  |
|   |                           |  |   |   |   | K1 - Led 24V red                      |  |  |
|   |                           |  |   |   |   | K2 - Led 24V green                    |  |  |
|   |                           |  |   |   |   | K3 - Led 24V amber                    |  |  |
|   |                           |  |   |   |   | K4 - Led 24V blue                     |  |  |
|   |                           |  |   |   |   | K5 - Led 24V white                    |  |  |
|   |                           |  |   |   |   | L1 - Led 48V red                      |  |  |
|   |                           |  |   |   |   | L2 - Led 48V green                    |  |  |
|   |                           |  |   |   |   | L3 - Led 48V amber                    |  |  |

| Engraved Screen Options |                            |  |                          |
|-------------------------|----------------------------|--|--------------------------|
|                         | 01 - Front Fog Lights      |  | 11 - 'Lock'              |
|                         | 02 - Rear Fog Lights       |  | 12 - 'Unlock'            |
|                         | 03 - 'Start'               |  | 13 - Rear Window Heating |
|                         | 04 - Interior Light        |  | 14 - Cooling             |
|                         | 05 - Boot Release          |  | 15 - Wipers              |
|                         | 06 - Hazard Warning        |  | 16 - Washers             |
|                         | 07 - Lights                |  | 17 - Fan                 |
|                         | 08 - Heating & Ventilation |  | 18 - Horn                |
|                         | 09 - Map Lights            |  | 19 - Air recirculation   |
|                         | 10 - Side Lights           |  | 20 - Blank               |

**OTHER SCREEN ENGRAVING OPTIONS :**  
contact APEM.

# A01 series

## Illuminated or non-illuminated pushbutton switches

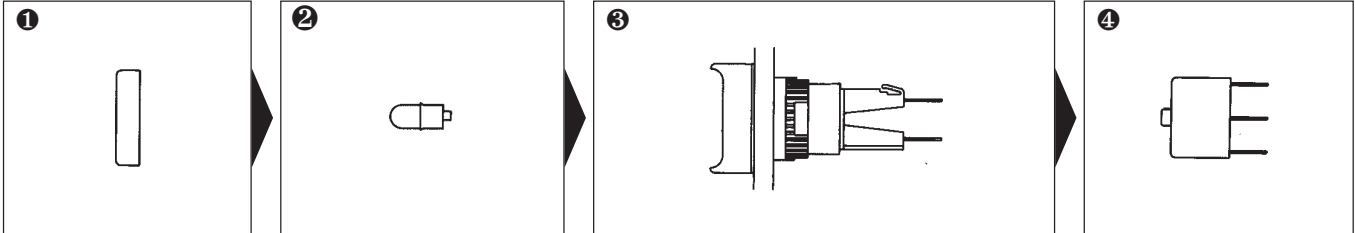
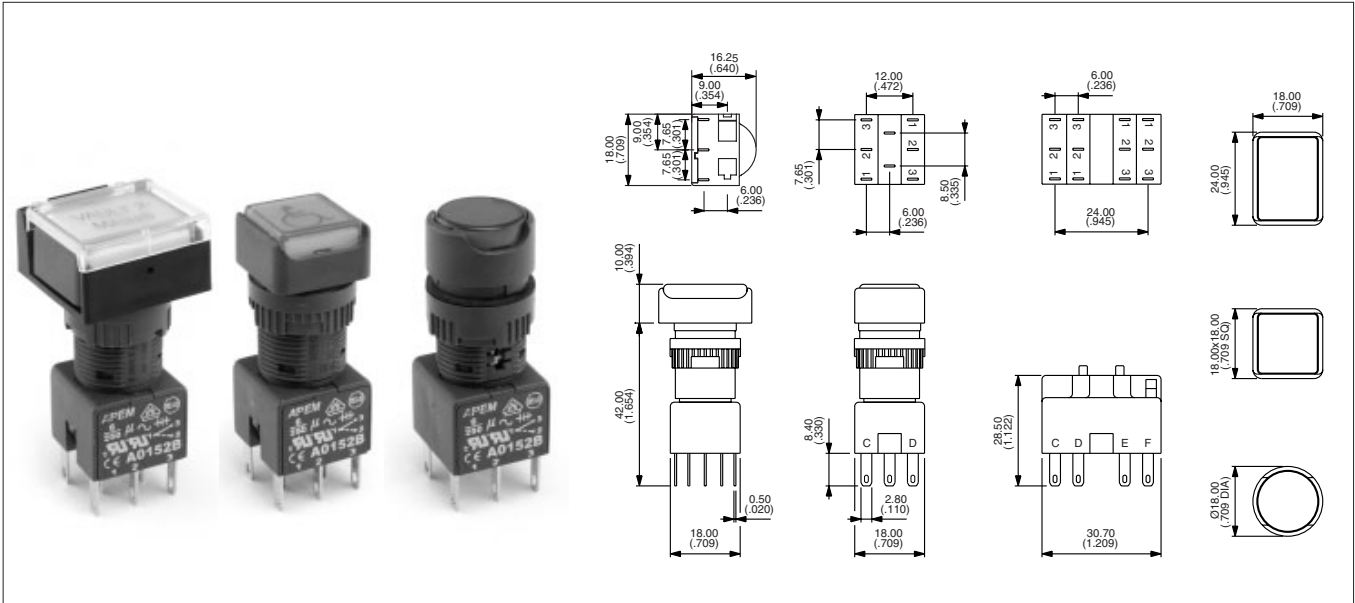
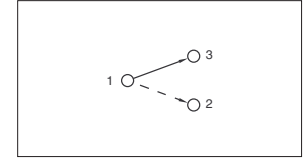
Panel cut-out Ø 16 (.630)

### A pushbutton assembly requires :

screen + lamp (if illuminated) + operator + switch block.

To order these elements, select desired model numbers from tables below.

**Example :** IP65 rectangular pushbutton, single pole, maintained, red screen and 12V red LED = A0161B, A0142M1, A0101X and A0151BUL.



### Screen

| Bezel | Colour | Part No |
|-------|--------|---------|
| □     | black  | A0161A  |
| □     | red    | A0161B  |
| □     | amber  | A0161C  |
| □     | yellow | A0161D  |
| □     | green  | A0161E  |
| □     | blue   | A0161F  |
| □     | clear  | A0161G  |
| □     | white  | A0161J  |
| □     | black  | A0162A  |
| □     | red    | A0162B  |
| □     | amber  | A0162C  |
| □     | yellow | A0162D  |
| □     | green  | A0162E  |
| □     | blue   | A0162F  |
| □     | clear  | A0162G  |
| □     | white  | A0162J  |
| ○     | black  | A0163A  |
| ○     | red    | A0163B  |
| ○     | amber  | A0163C  |
| ○     | yellow | A0163D  |
| ○     | green  | A0163E  |
| ○     | blue   | A0163F  |
| ○     | clear  | A0163G  |
| ○     | white  | A0163J  |

### Lamp

| Lamp     | Voltage   | Part No |
|----------|-----------|---------|
| Filament | 6.3V      | A0141A  |
| Filament | 14V       | A0141B  |
| Filament | 28V       | A0141C  |
| Filament | 36V       | A0141D  |
| Filament | 48V       | A0141E  |
| Filament | 60V       | A0141F  |
| Neon     | 110V      | A0143G  |
| Neon     | 220V      | A0143H  |
| LED      | 6V red    | A0142L1 |
| LED      | 6V green  | A0142L2 |
| LED      | 6V amber  | A0142L3 |
| LED      | 12V red   | A0142M1 |
| LED      | 12V green | A0142M2 |
| LED      | 12V amber | A0142M3 |
| LED      | 12V blue  | A0142M4 |
| LED      | 12V white | A0142M5 |
| LED      | 24V red   | A0142N1 |
| LED      | 24V green | A0142N2 |
| LED      | 24V amber | A0142N3 |
| LED      | 24V blue  | A0142N4 |
| LED      | 24V white | A0142N5 |
| LED      | 48V red   | A0142P1 |
| LED      | 48V green | A0142P2 |
| LED      | 48V amber | A0142P3 |

### Operator

| Pole   | Bezel | Description           | Part No |
|--------|-------|-----------------------|---------|
| 1 or 2 | □     | Illum, momentary      | A0101Y  |
| 1 or 2 | □     | Illum, maintained     | A0101X  |
| 1 or 2 | □     | Non-illum, momentary  | A0102Y  |
| 1 or 2 | □     | Non-illum, maintained | A0102X  |
| 3 or 4 | □     | Illum, momentary      | A0103Y  |
| 3 or 4 | □     | Illum, maintained     | A0103X  |
| 3 or 4 | □     | Non-illum, momentary  | A0104Y  |
| 3 or 4 | □     | Non-illum, maintained | A0104X  |
| 1 or 2 | □     | Illum, momentary      | A0105Y  |
| 1 or 2 | □     | Illum, maintained     | A0105X  |
| 1 or 2 | □     | Non-illum, momentary  | A0106Y  |
| 1 or 2 | □     | Non-illum, maintained | A0106X  |
| 3 or 4 | □     | Illum, momentary      | A0107Y  |
| 3 or 4 | □     | Illum, maintained     | A0107X  |
| 3 or 4 | □     | Non-illum, momentary  | A0108Y  |
| 3 or 4 | □     | Non-illum, maintained | A0108X  |
| 1 or 2 | ○     | Illum, momentary      | A0109Y  |
| 1 or 2 | ○     | Illum, maintained     | A0109X  |
| 1 or 2 | ○     | Non-illum, momentary  | A0110Y  |
| 1 or 2 | ○     | Non-illum, maintained | A0110X  |
| 3 or 4 | ○     | Illum, momentary      | A0111Y  |
| 3 or 4 | ○     | Illum, maintained     | A0111X  |
| 3 or 4 | ○     | Non-illum, momentary  | A0112Y  |
| 3 or 4 | ○     | Non-illum, maintained | A0112X  |

### Switch block

| No of poles | Part No  |
|-------------|----------|
| Single pole | A0151BUL |
| Double pole | A0152BUL |
| Three pole  | A0155BUL |
| Four pole   | A0153BUL |

**UNSEALED SWITCHES (IP40) :**  
add "01" to end of operator model number.

**BI-COLOUR LED's optional.**

### SCREEN ENGRAVING/INSERTABLE LEGENDS : contact APEM

Bezel: □ rectangular, □ square, ○ round, 'illum' - illuminated, 'Non-illum' - non illuminated

# A01 series

## Indicators

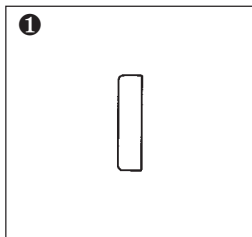
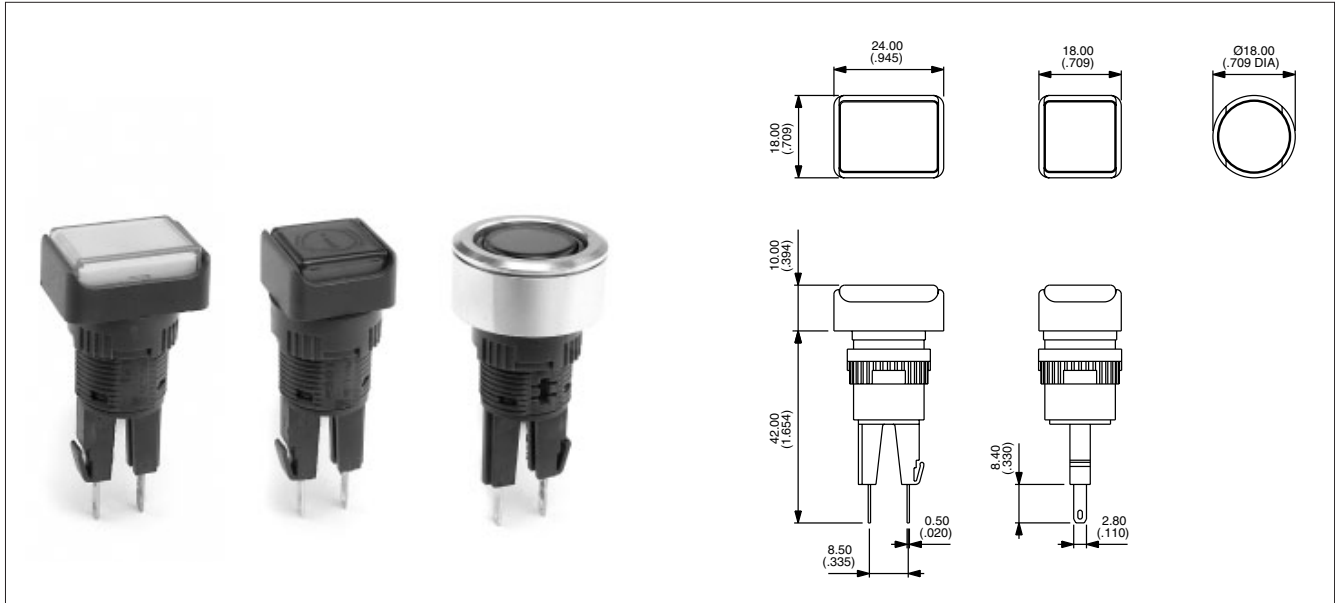
Panel cut-out Ø 16 (.630)

### An indicator assembly requires :

screen + lamp + operator.

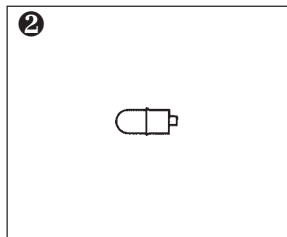
To order these elements, select desired model numbers from tables below.

**Example :** IP65 rectangular indicator with red screen and 12V red LED = A0161B, A0142M1 and A0171.



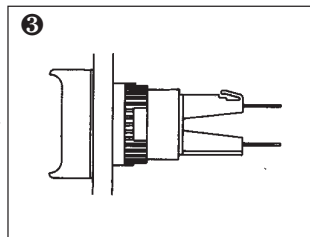
### Screen

| Bezel | Colour | Part No |
|-------|--------|---------|
| □     | black  | A0161A  |
| □     | red    | A0161B  |
| □     | amber  | A0161C  |
| □     | yellow | A0161D  |
| □     | green  | A0161E  |
| □     | blue   | A0161F  |
| □     | clear  | A0161G  |
| □     | white  | A0161J  |
| □     | black  | A0162A  |
| □     | red    | A0162B  |
| □     | amber  | A0162C  |
| □     | yellow | A0162D  |
| □     | green  | A0162E  |
| □     | blue   | A0162F  |
| □     | clear  | A0162G  |
| □     | white  | A0162J  |
| ○     | black  | A0163A  |
| ○     | red    | A0163B  |
| ○     | amber  | A0163C  |
| ○     | yellow | A0163D  |
| ○     | green  | A0163E  |
| ○     | blue   | A0163F  |
| ○     | clear  | A0163G  |
| ○     | white  | A0163J  |



### Lamp

| Lamp     | Voltage   | Part No |
|----------|-----------|---------|
| Filament | 6.3V      | A0141A  |
| Filament | 14V       | A0141B  |
| Filament | 28V       | A0141C  |
| Filament | 36V       | A0141D  |
| Filament | 48V       | A0141E  |
| Filament | 60V       | A0141F  |
| Neon     | 110V      | A0143G  |
| Neon     | 220V      | A0143H  |
| LED      | 6V red    | A0142L1 |
| LED      | 6V green  | A0142L2 |
| LED      | 6V amber  | A0142L3 |
| LED      | 12V red   | A0142M1 |
| LED      | 12V green | A0142M2 |
| LED      | 12V amber | A0142M3 |
| LED      | 12V blue  | A0142M4 |
| LED      | 12V white | A0142M5 |
| LED      | 24V red   | A0142N1 |
| LED      | 24V green | A0142N2 |
| LED      | 24V amber | A0142N3 |
| LED      | 24V blue  | A0142N4 |
| LED      | 24V white | A0142N5 |
| LED      | 48V red   | A0142P1 |
| LED      | 48V green | A0142P2 |
| LED      | 48V amber | A0142P3 |



### Operator

| Bezel | Description | Part No |
|-------|-------------|---------|
| □     | Indicator   | A0171   |
| □     | Indicator   | A0172   |
| ○     | Indicator   | A0173   |

**UNSEALED INDICATORS (IP40) :**  
add "01" to end of operator model number.

SCREEN ENGRAVING / INSERTABLE LEGENDS : contact APEM

Bezel: □ rectangular, □ square, ○ round

# A01 series

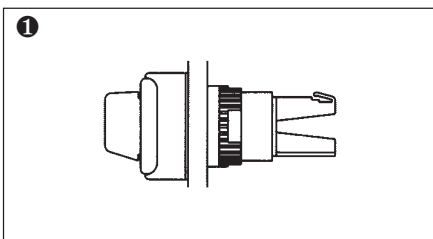
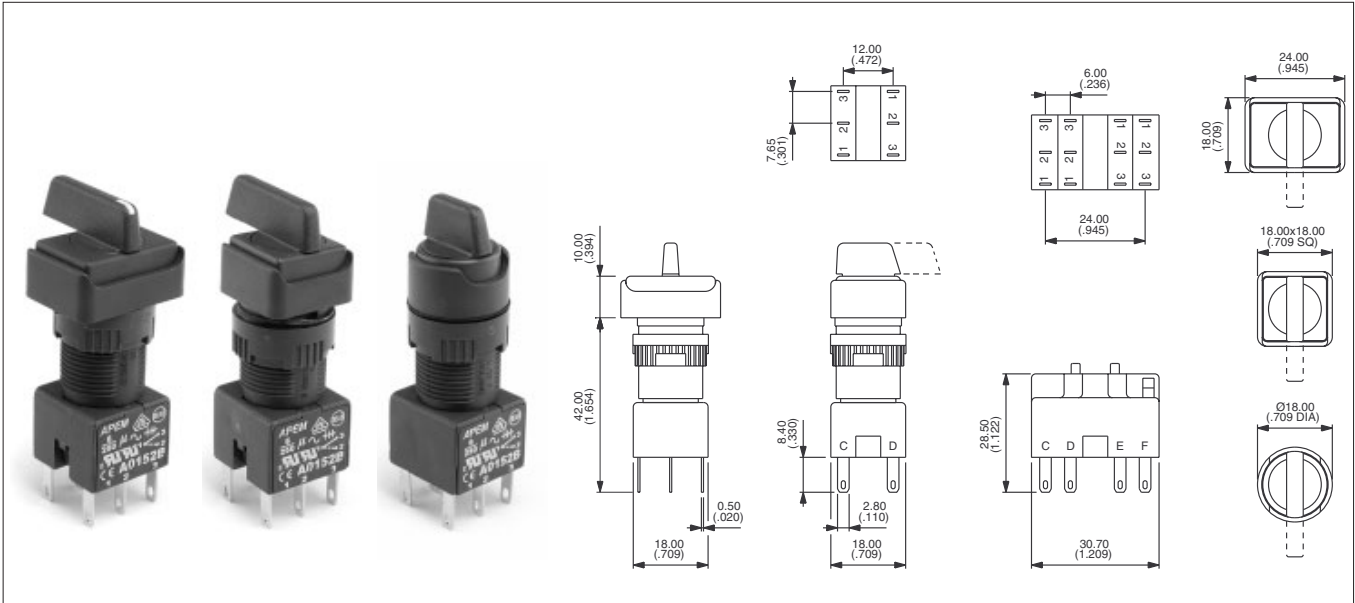
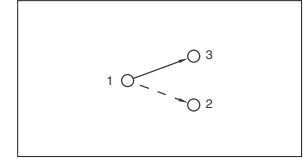
## Rotary lever switches

Panel cut-out Ø 16 (.630)

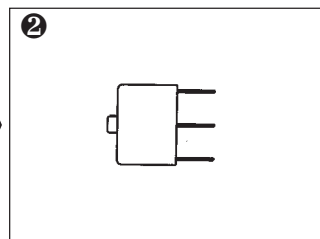
**A rotary lever switch assembly requires :**  
operator + switch block.

To order these elements, select desired model numbers from tables below.

**Example :** IP65 rectangular rotary switch with long lever, clockwise rotation, single pole, 2 positions, maintained = A019109 and A0151BUL.

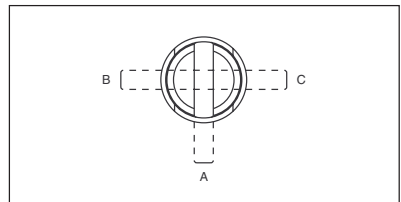


**Operator**



**Switch block**

### Lever Positions



#### • Lever Rotation - 2 position switches

The model numbers shown are for switches with clockwise lever rotation.

For anticlockwise rotation, replace :

- |    |      |    |
|----|------|----|
| 09 | with | 01 |
| 10 | with | 02 |
| 11 | with | 03 |
| 12 | with | 04 |

at the end of the model number.

### Optional Engraving on Lever end

See above photo left.  
To order, add "WL" to the end of the operator part No.  
Example : A019609WL..

| Pole   | Bezel | Description        | Short lever | Long lever | No of poles | Part No  |
|--------|-------|--------------------|-------------|------------|-------------|----------|
| 1 or 2 | □     | 2 pos. maintained  | A019209     | A019109•   | Single pole | A0151BUL |
| 1 or 2 | □     | 2 pos. momentary   | A019210     | A019110•   | Double pole | A0152BUL |
| 3 or 4 | □     | 2 pos. maintained  | A019211     | A019111•   | Three pole  | A0155BUL |
| 3 or 4 | □     | 2 pos. momentary   | A019212     | A019112•   | Four pole   | A0153BUL |
| 1 or 2 | □     | 3 pos. maintained  | A019205     | A019105    |             |          |
| 1 or 2 | □     | 3 pos. momentary   | A019206     | A019106    |             |          |
| 1 or 2 | □     | 3 pos. mainL, momR | A019207     | A019107    |             |          |
| 1 or 2 | □     | 3 pos. momL, mainR | A019208     | A019108    |             |          |
| 1 or 2 | □     | 2 pos. maintained  | A019409     | A019309•   |             |          |
| 1 or 2 | □     | 2 pos. momentary   | A019410     | A019310•   |             |          |
| 3 or 4 | □     | 2 pos. maintained  | A019411     | A019311•   |             |          |
| 3 or 4 | □     | 2 pos. momentary   | A019412     | A019312•   |             |          |
| 1 or 2 | □     | 3 pos. maintained  | A019405     | A019305    |             |          |
| 1 or 2 | □     | 3 pos. momentary   | A019406     | A019306    |             |          |
| 1 or 2 | □     | 3 pos. mainL, momR | A019407     | A019307    |             |          |
| 1 or 2 | □     | 3 pos. momL, mainR | A019408     | A019308    |             |          |
| 1 or 2 | ○     | 2 pos. maintained  | A019609     | A019509•   |             |          |
| 1 or 2 | ○     | 2 pos. momentary   | A019610     | A019510•   |             |          |
| 3 or 4 | ○     | 2 pos. maintained  | A019611     | A019511•   |             |          |
| 3 or 4 | ○     | 2 pos. momentary   | A019612     | A019512•   |             |          |
| 1 or 2 | ○     | 3 pos. maintained  | A019605     | A019505    |             |          |
| 1 or 2 | ○     | 3 pos. momentary   | A019606     | A019506    |             |          |
| 1 or 2 | ○     | 3 pos. mainL, momR | A019607     | A019507    |             |          |
| 1 or 2 | ○     | 3 pos. momL, mainR | A019608     | A019508    |             |          |

Bezel: □ rectangular, □ square, ○ round, 'pos' - position, 'mainL' - maintained left, 'momR' - momentary right, etc

# A01 series

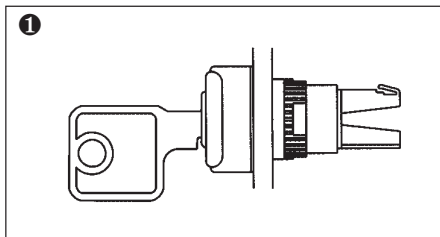
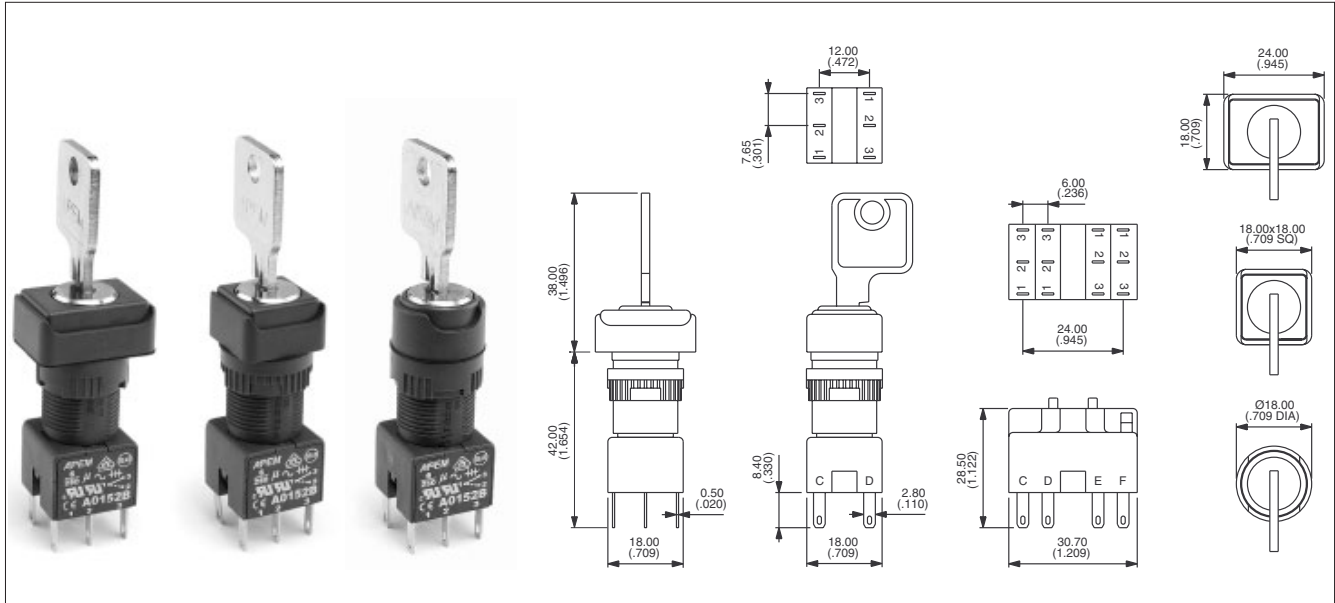
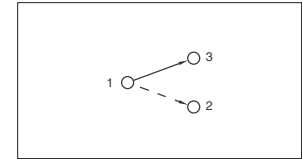
## Keylock switches

Panel cut-out Ø 16 (.630)

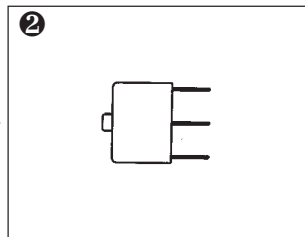
**A keylock switch assembly requires :**  
operator + switch block.

To order these elements, select desired model numbers from tables below.

**Example :** IP65 rectangular keyswitch, clockwise rotation, single pole, 2 positions, maintained = A018125 and A0151BUL.

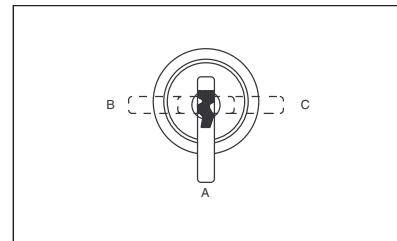


**Operator**



**Switch block**

### Key Positions



| Pole   | Bezel | Description        | Part No  | Key removable | No of poles | Part No  |
|--------|-------|--------------------|----------|---------------|-------------|----------|
| 1 or 2 | □     | 2 pos. maintained  | A018123  | A             | Single pole | A0151BUL |
| 1 or 2 | □     | 2 pos. maintained  | A018125• | A-B           | Double pole | A0152BUL |
| 1 or 2 | □     | 2 pos. momentary   | A018124• | A             | Three pole  | A0155BUL |
| 3 or 4 | □     | 2 pos. maintained  | A018127• | A-B           | Four pole   | A0153BUL |
| 3 or 4 | □     | 2 pos. momentary   | A018128• | A             |             |          |
| 1 or 2 | □     | 3 pos. maintained  | A018105  | A-B-C         |             |          |
| 1 or 2 | □     | 3 pos. momentary   | A018106  | A             |             |          |
| 1 or 2 | □     | 3 pos. mainL, momR | A018107  | A-B           |             |          |
| 1 or 2 | □     | 3 pos. momL, mainR | A018108  | A-C           |             |          |
| 1 or 2 | □     | 2 pos. maintained  | A018223  | A             |             |          |
| 1 or 2 | □     | 2 pos. maintained  | A018225• | A-B           |             |          |
| 1 or 2 | □     | 2 pos. momentary   | A018224• | A             |             |          |
| 3 or 4 | □     | 2 pos. maintained  | A018227• | A-B           |             |          |
| 3 or 4 | □     | 2 pos. momentary   | A018228• | A             |             |          |
| 1 or 2 | □     | 3 pos. maintained  | A018205  | A-B-C         |             |          |
| 1 or 2 | □     | 3 pos. momentary   | A018206  | A             |             |          |
| 1 or 2 | □     | 3 pos. mainL, momR | A018207  | A-B           |             |          |
| 1 or 2 | □     | 3 pos. momL, mainR | A018208  | A-C           |             |          |
| 1 or 2 | ○     | 2 pos. maintained  | A018323  | A             |             |          |
| 1 or 2 | ○     | 2 pos. maintained  | A018325• | A-B           |             |          |
| 1 or 2 | ○     | 2 pos. momentary   | A018324• | A             |             |          |
| 3 or 4 | ○     | 2 pos. maintained  | A018327• | A-B           |             |          |
| 3 or 4 | ○     | 2 pos. momentary   | A018328• | A             |             |          |
| 1 or 2 | ○     | 3 pos. maintained  | A018305  | A-B-C         |             |          |
| 1 or 2 | ○     | 3 pos. momentary   | A018306  | A             |             |          |
| 1 or 2 | ○     | 3 pos. mainL, momR | A018307  | A-B           |             |          |
| 1 or 2 | ○     | 3 pos. momL, mainR | A018308  | A-C           |             |          |

### • Key Rotation - 2 position switches

The model numbers shown are for switches with clockwise key rotation.

For anticlockwise rotation, replace :

|    |      |    |
|----|------|----|
| 25 | with | 01 |
| 24 | with | 02 |
| 27 | with | 03 |
| 28 | with | 04 |

at the end of the model number.

2 standard keys are supplied.  
20 key barrel types available from stock.

**NON-REMOVABLE KEY POSITIONS / ON-ON-ON FUNCTION : contact APEM.**

Bezel: □ rectangular, □ square, ○ round, 'pos' - position, 'mainL' - maintained left, 'momR' - momentary right, etc

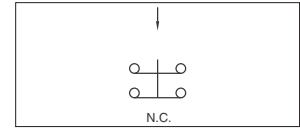
# A01 series

## Emergency stop switches

Panel cut-out Ø 16 (.630)

- Prominent 24 mm (.944) dia. or optional 40 mm (1.575) dia. red mushroom actuator
- Highly reliable positive break switch
- Push to shut off switch, twist to reset to ON
- Approved to UL 1054 / EN 60947-5-1

An emergency stop switch assembly requires : operator + switch block.  
To order, specify with single pole or double pole positive break switch block.

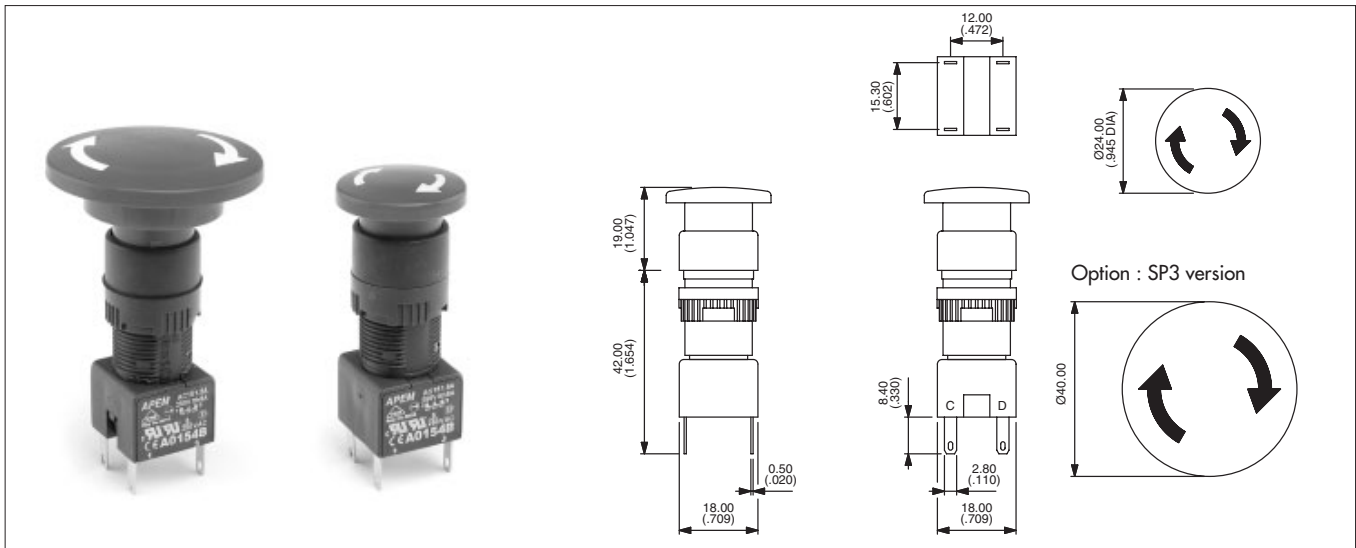


### General specifications

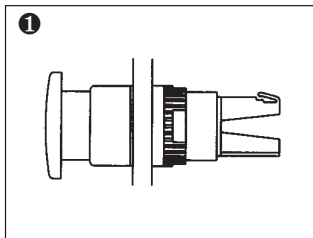
- Min. mechanical life : 6.050 cycles (6 cycles per minute)
- Operating force / torque : 16 N / 0,1 Nm
- Operating temperature : -20°C to +55°C
- Solder heat resistance : 350°C, 5 secs (IEC 68-2-2-20Tb, method 2)
- Degree of environmental protection (IEC 529) : IP65 front of panel, IP40 back of panel
- Switch terminals : solder/quick-connect 2,8 mm (.110) (IEC 68-2-20)

### Electrical specifications

- Current/voltage rating : 1,5A 250VAC AC-15
- Contact gap : > 3 mm (.118)
- Dielectric strength : 2.900V
- Electrical life : 6.050 cycles



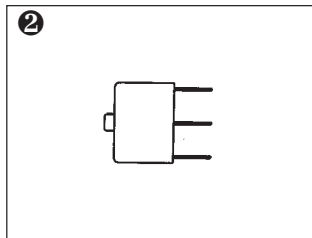
1



### Operator

| Description            | Part No   |
|------------------------|-----------|
| 24 mm Ø Emergency stop | A01ES     |
| 40 mm Ø Emergency stop | A01ES SP3 |

2



### Switch block

| No of poles | Part No  |
|-------------|----------|
| Single pole | A0150BUL |
| Double pole | A0154BUL |

### Accessory



### 60 mm Ø Self Adhesive Label

| Description            | Part No |
|------------------------|---------|
| Yellow label with text | A01YL1  |
| Yellow label           | A01YL2  |



# A01 series

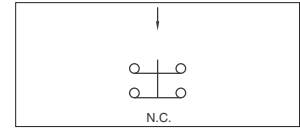
## Emergency stop switches/mushroom head pushbutton switches

*Fitted in enclosures*

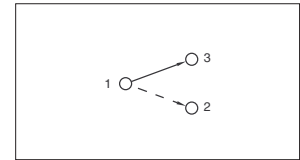
- Prominent 40 mm (1.575) dia. mushroom actuator, twist to release
- Highly reliable positive break switching on E-Stop
- Sealed to IP65
- 6A current rating
- Robust polycarbonate enclosures
- Knockouts for popular conduit sizes
- Double pole changeover switch blocks available for momentary/maintained mushroom head pushbuttons.

### Technical specifications

- Contact rating : Pushbutton switch : 6A 250VAC - E-Stop : 1,5A 250VAC
- Dimensions : 65 x 65 x 57 mm
- Electrical life : Pushbutton switch : 50 000 cycles - E-Stop : 6 050 cycles
- Operating temperature : -20°C to +55°C



**Emergency stop**



**Momentary & maintained**



| Description       | Part No              |
|-------------------|----------------------|
| Emergency stop    | A01ESSP354B + PEA01  |
| Black momentary   | A01MMASP352B + PEA01 |
| Red momentary     | A01MMBSP352B + PEA01 |
| Yellow momentary  | A01MMDSP352B + PEA01 |
| Green momentary   | A01MMESP352B + PEA01 |
| Blue momentary    | A01MMFSP352B + PEA01 |
| Black maintained  | A01MXASP352B + PEA01 |
| Red maintained    | A01MXBSP352B + PEA01 |
| Yellow maintained | A01MXDSP352B + PEA01 |
| Green maintained  | A01MXESP352B + PEA01 |
| Blue maintained   | A01MXFSP352B + PEA01 |

### OPTIONS

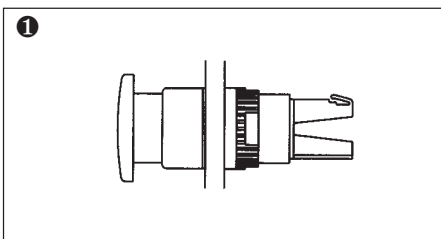
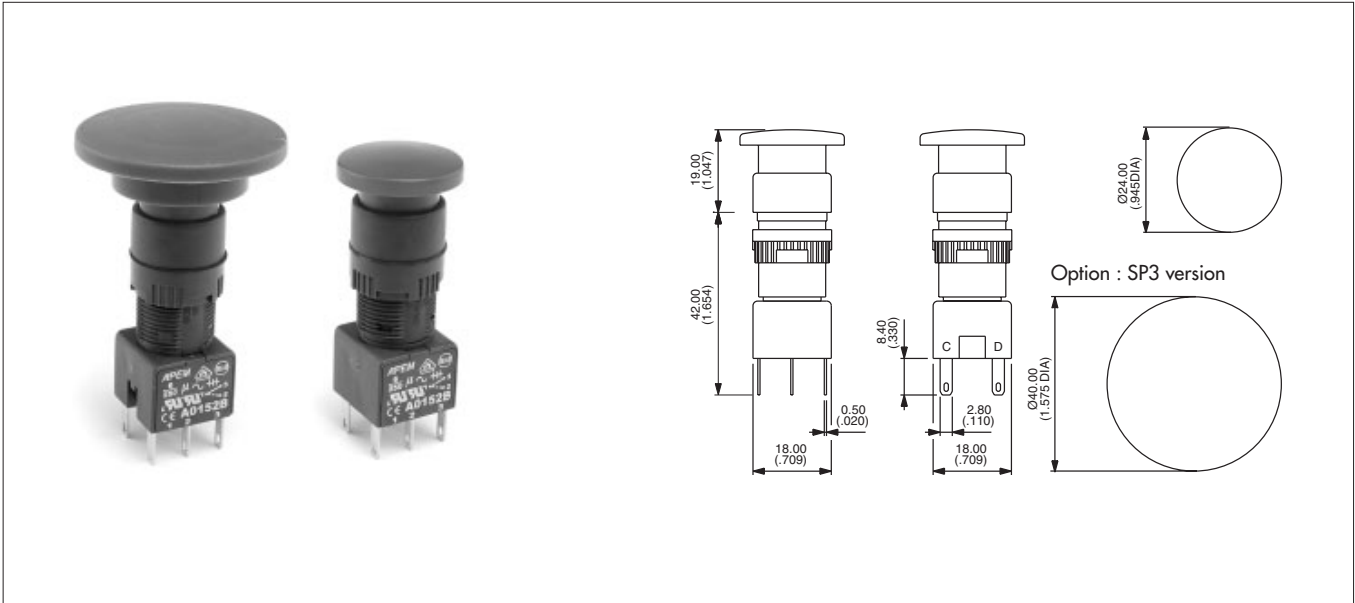
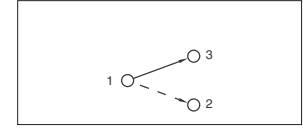
12A 250V versions or custom printing on mushroom head actuators : contact APEM.

# A01 series

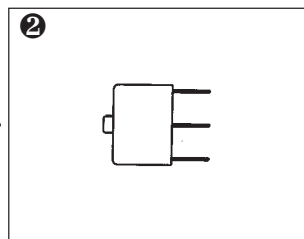
## Mushroom head pushbutton switches

Panel cut-out  $\varnothing$  16 (.630)

- Prominent 24 mm (.944) dia. or optional 40 mm (1.575) dia. mushroom actuators
- Momentary and maintained functions  
Momentary function versions are unmarked.  
Maintained function versions are twist release (arrows indicate direction of twist)
- Various coloured mushroom actuators are available.



**Operator**



**Switch block**

| Actuator           | Description       | Part No    | No of poles | Part No  |
|--------------------|-------------------|------------|-------------|----------|
| 24mm $\varnothing$ | Black momentary   | A01MMA     | Single pole | A0151BUL |
| 24mm $\varnothing$ | Red momentary     | A01MMB     | Double pole | A0152BUL |
| 24mm $\varnothing$ | Yellow momentary  | A01MMD     | Three pole  | A0155BUL |
| 24mm $\varnothing$ | Green momentary   | A01MME     | Four pole   | A0153BUL |
| 24mm $\varnothing$ | Blue momentary    | A01MMF     |             |          |
| 24mm $\varnothing$ | Black maintained  | A01MXA     |             |          |
| 24mm $\varnothing$ | Red maintained    | A01MXB     |             |          |
| 24mm $\varnothing$ | Yellow maintained | A01MXD     |             |          |
| 24mm $\varnothing$ | Green maintained  | A01MXE     |             |          |
| 24mm $\varnothing$ | Blue maintained   | A01MXF     |             |          |
| 40mm $\varnothing$ | Black momentary   | A01MMA SP3 |             |          |
| 40mm $\varnothing$ | Red momentary     | A01MMB SP3 |             |          |
| 40mm $\varnothing$ | Yellow momentary  | A01MMD SP3 |             |          |
| 40mm $\varnothing$ | Green momentary   | A01MME SP3 |             |          |
| 40mm $\varnothing$ | Blue momentary    | A01MMF SP3 |             |          |
| 40mm $\varnothing$ | Black maintained  | A01MXA SP3 |             |          |
| 40mm $\varnothing$ | Red maintained    | A01MXB SP3 |             |          |
| 40mm $\varnothing$ | Yellow maintained | A01MXD SP3 |             |          |
| 40mm $\varnothing$ | Green maintained  | A01MXE SP3 |             |          |
| 40mm $\varnothing$ | Blue maintained   | A01MXF SP3 |             |          |

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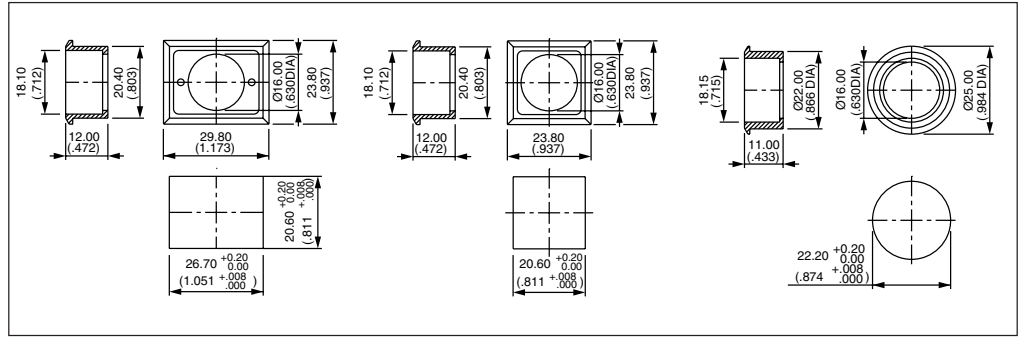
# A1-A01 series

## Industrial controls

### Accessories

#### FLUSH MOUNTING BEZELS

Dark grey plastic material - supplied with sealing washer



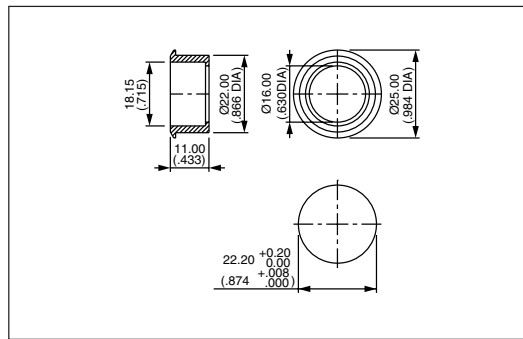
Rectangular **A01FM1**

Square **A01FM**

Round **A01FM2**

#### FLUSH MOUNTING BEZELS

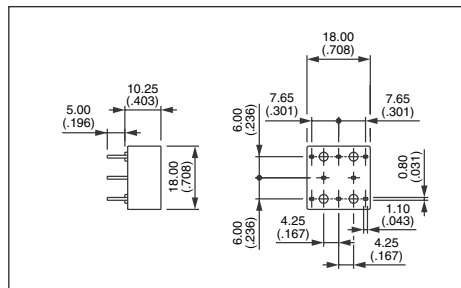
Metal versions



Round, anodised aluminium **A01FMM**

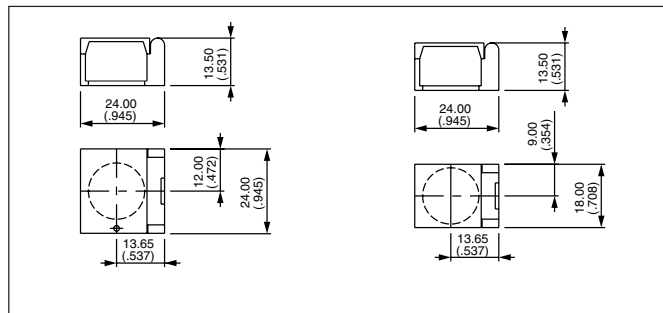
Round, matt black **A01FMMG**

#### PCB SOCKET



- Single pole, non illuminated **A01PC1**
- Double pole, non illuminated **A01PC2**
- Single pole, illuminated **A01PC3**
- Double pole, illuminated **A01PC4**
- Indicator **A01PC5**
- Single pole, E-stop **A01PC6**
- Double pole, E-stop **A01PC7**

#### FLAPGUARDS



Rectangular **A01FG1**

Square/round **A01FG2**

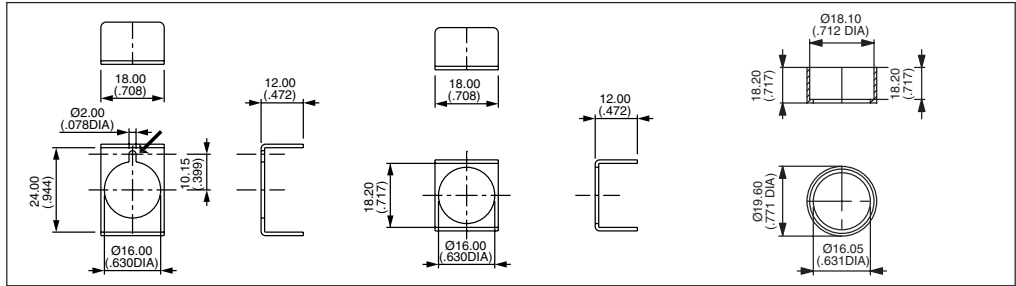
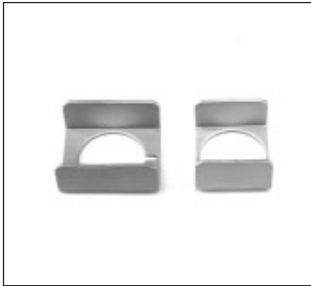
# A1-A01 series

## Industrial controls

### Accessories

#### METAL GUARDS

→ Slot as alternative to Ø 2 mm hole - Material : 1 mm thick aluminium.



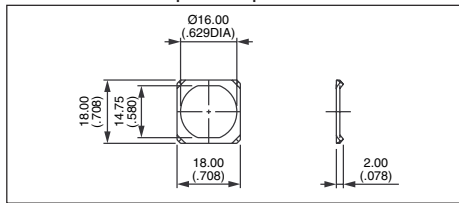
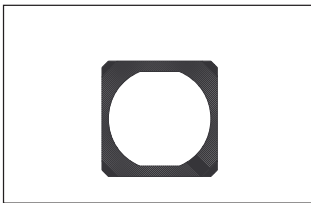
Rectangular **A01MG1**

Square **A01MG**

Round, natural **A01MG2**  
Matt black **A01MG2G**

#### ANTI ROTATION RING

Recommended to prevent product rotation

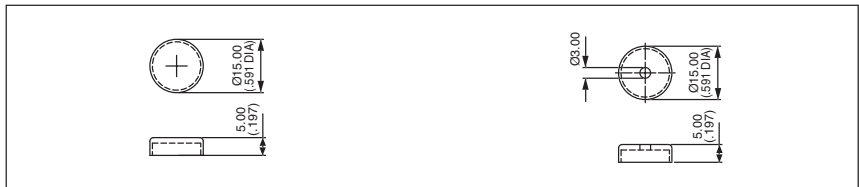
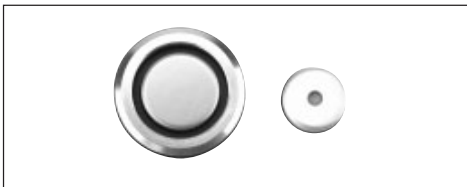


**A01LW**

#### ALUMINIUM SCREENS

For non-illuminated pushbuttons

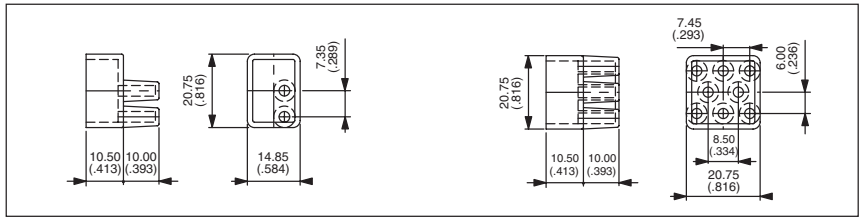
For illuminated pushbuttons



**A0163AL**

**A0163AL1**

#### SWITCHBLOCK TERMINAL GUARDS

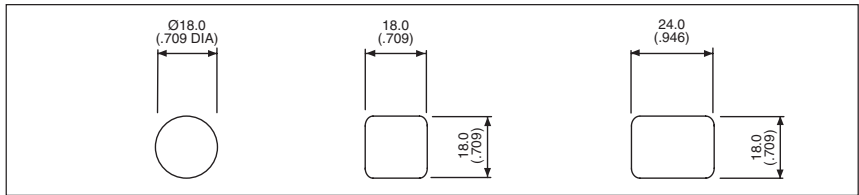


2 way **A01RTC2**

8 way **A01RTC8**

**G**

#### BLANKING PLUGS



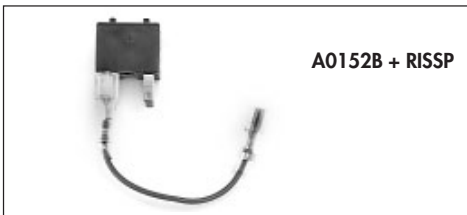
Round **A0133**

Square **A0132**

Rectangular **A0131**

#### RESISTOR ASSEMBLY

Resistor assembly - 2 stage illumination



**A0152B + RISSP**



(DIM) normally closed

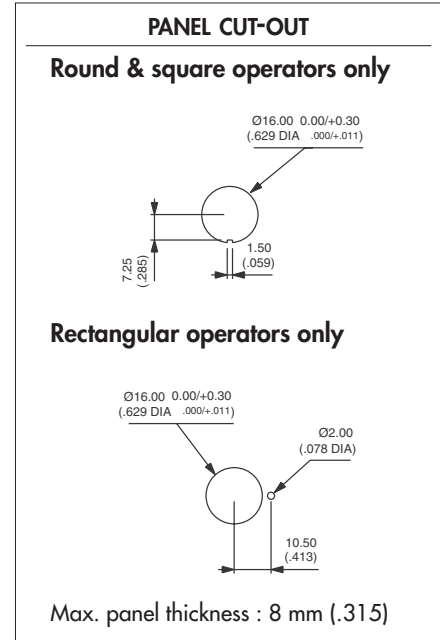
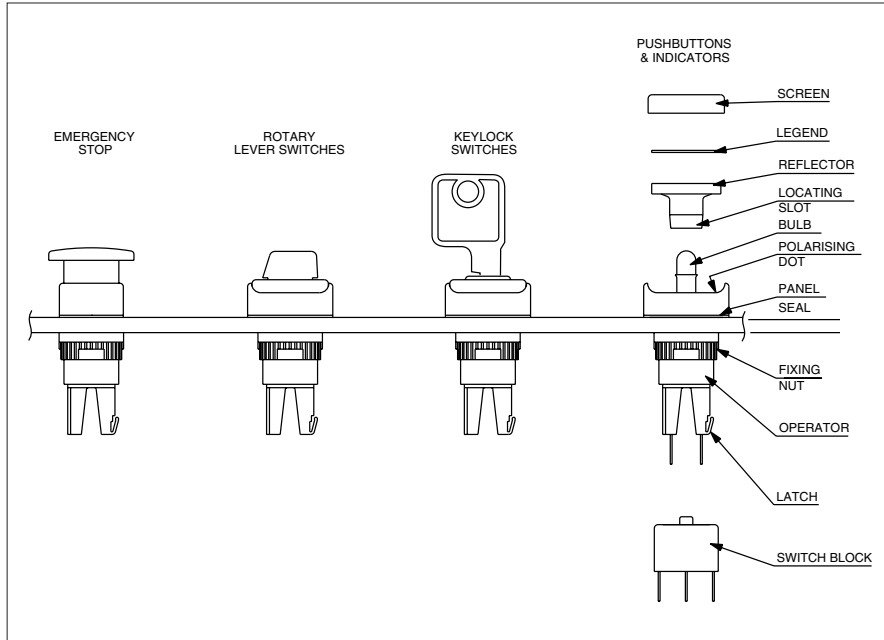
(BRIGHT) normally open

# A1-A01 series

Industrial controls

Installation - tools

## Modular construction / panel mounting



### PANEL MOUNTING ASSEMBLY

- Drill/punch hole shaped as above.
- Assemble front operator through hole, fit fixing nut and tighten to a maximum torque of 0,8Nm using tool No 30-0001.
- Wire chosen switch block as required and slide onto operator until latch engages.
- Fit bulb if required using tool No 30-0002.
- Snap screen onto reflector assembly with legend in between if required and snap onto front operator TAKING CARE TO LINE UP THE LOCATING SLOT WITH THE POLARISING DOT, and not to damage the seal.

### TO REMOVE BULB

Remove reflector/screen assembly. Use the bulb extractor 30-0002 to remove the bulb.

### SWITCH BLOCK

To assemble switch block to front operator, TAKE CARE TO LINE UP SWITCH BLOCK WITH FRONT OPERATOR. Once in position, slide on to front operator. NB. : Ensure latch is fully engaged correctly onto the switch block.

To remove switch block, depress the latch and slide the switch block off the operator.

FIXING NUT KEY



BULB REMOVER

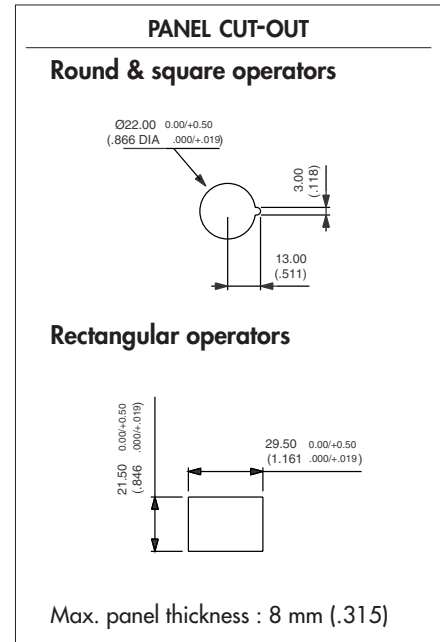
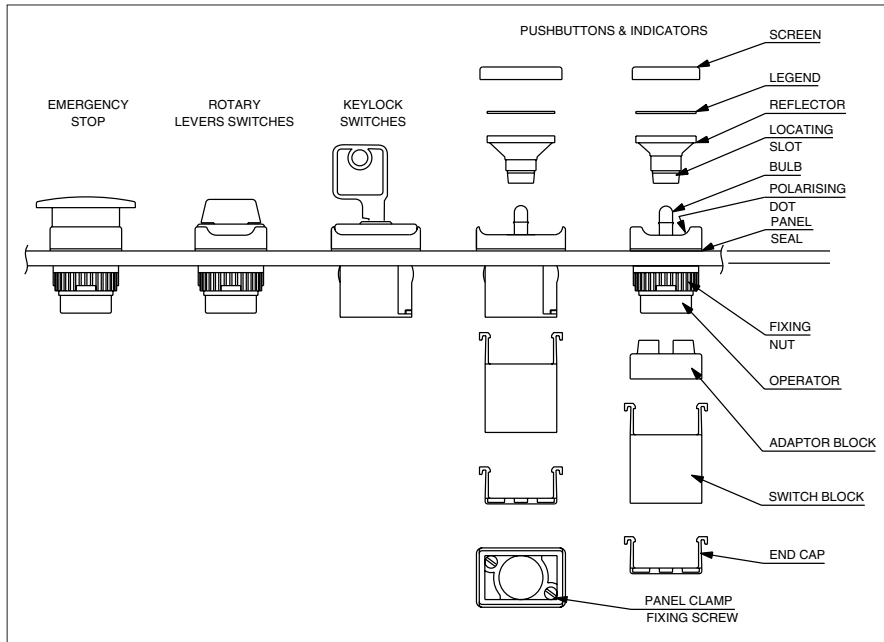


# A02 series

## Industrial controls

Installation

### Modular construction / panel mounting



#### PANEL MOUNTING ASSEMBLY

- Drill/punch hole in panel as shaped above.
- Assemble front operator through hole and :
  - a/ *Round & square types* : tighten nut to a maximum torque of 0,8Nm using tool No 30-0001. Snap on adaptor block
  - b/ *Rectangular types* : tighten two panel fixing screws in front to a maximum torque of 6cNm.
- Wire chosen switch block as required and snap onto front operator.
- Snap end cap onto switch block.
- Fit bulb if required using tool No 30-0002.
- Snap screen onto reflector assembly with legend in between if required and snap into front operator **TAKING CARE TO LINE UP THE LOCATING SLOT WITH THE POLARISING DOT**, and not to damage the seal.

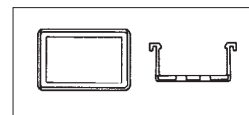
#### TO REMOVE BULB

Remove reflector/screen assembly. Use the bulb extractor 30-0002 to remove the bulb.

#### TO REMOVE SWITCH BLOCK

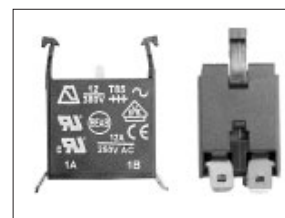
Lever out latches using small screwdriver taking care not to overbend, and pull off the block from the front operator.

#### A02 Accessories



Part No : 14-0005

End cap terminal guard offering unique terminal protection.



6.35 mm push on tab terminals.  
Specify "SP" to the end of the switchblock and operator P/N.  
Example : A02503SP.

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# A03 series

## Illuminated or non-illuminated pushbutton switches and indicators

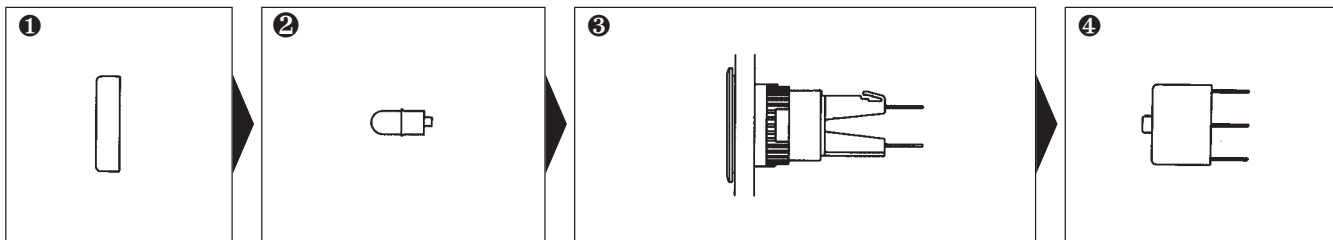
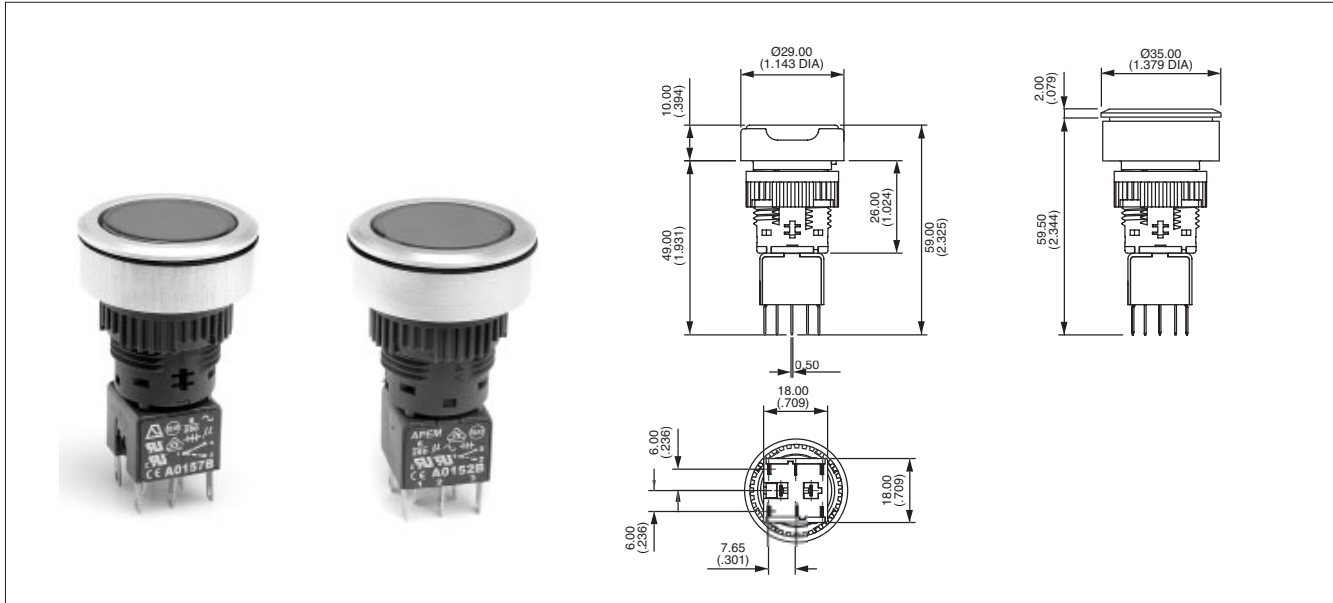
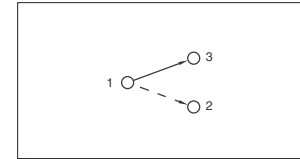
Panel cut-out Ø 22 (.866) or 30 (1.181) - Plastic or metal flush mounting bezel

### A pushbutton assembly requires :

screen + lamp (if illuminated) + operator + switch block.

To order these elements, select desired model numbers from tables below.

**Example :** IP65 flush mounting round pushbutton, maintained function, red screen, 12V red LED and single pole switch block = A0314X, A0263B, A0142M1 and A0151BUL.



### Screen

| Bezel | Colour | Part No |
|-------|--------|---------|
| ○     | black  | A0263A  |
| ○     | red    | A0263B  |
| ○     | amber  | A0263C  |
| ○     | yellow | A0263D  |
| ○     | green  | A0263E  |
| ○     | blue   | A0263F  |
| ○     | clear  | A0263G  |
| ○     | white  | A0263J  |

### Lamp

| Lamp     | Voltage   | Part No |
|----------|-----------|---------|
| Filament | 6.3V      | A0141A  |
| Filament | 14V       | A0141B  |
| Filament | 28V       | A0141C  |
| Filament | 36V       | A0141D  |
| Filament | 48V       | A0141E  |
| Filament | 60V       | A0141F  |
| Neon     | 110V      | A0143G  |
| Neon     | 220V      | A0143H  |
| LED      | 6V red    | A0142L1 |
| LED      | 6V green  | A0142L2 |
| LED      | 6V amber  | A0142L3 |
| LED      | 12V red   | A0142M1 |
| LED      | 12V green | A0142M2 |
| LED      | 12V amber | A0142M3 |
| LED      | 12V blue  | A0142M4 |
| LED      | 12V white | A0142M5 |
| LED      | 24V red   | A0142N1 |
| LED      | 24V green | A0142N2 |
| LED      | 24V amber | A0142N3 |
| LED      | 24V blue  | A0142N4 |
| LED      | 24V white | A0142N5 |
| LED      | 48V red   | A0142P1 |
| LED      | 48V green | A0142P2 |
| LED      | 48V amber | A0142P3 |

### Operator

| Bezel | Description                   | Lamp type     | Part No |
|-------|-------------------------------|---------------|---------|
| ○     | Plastic illum, momentary      | Lamp/LED bulb | A0307Y  |
| ○     | Plastic illum, maintained     | Lamp/LED bulb | A0307X  |
| ○     | Plastic non-illum, momentary  |               | A0309Y  |
| ○     | Plastic non-illum, maintained |               | A0309X  |
| ○     | Metal illum, momentary        | Lamp/LED bulb | A0310Y  |
| ○     | Metal illum, maintained       | Lamp/LED bulb | A0310X  |
| ○     | Metal non-illum, momentary    |               | A0312Y  |
| ○     | Metal non-illum, maintained   |               | A0312X  |
| ○     | F/mount illum, momentary      | Lamp/LED bulb | A0314Y  |
| ○     | F/mount illum, maintained     | Lamp/LED bulb | A0314X  |
| ○     | F/mount non-illum, momentary  |               | A0315Y  |
| ○     | F/mount non-illum, maintained |               | A0315X  |
| ○     | Plastic indicator             |               | A0375   |
| ○     | Metal indicator               |               | A0377   |
| ○     | F/mount indicator             |               | A0379I  |

### Switch block

| No of poles | Part No  |
|-------------|----------|
| Single pole | A0151BUL |
| Double pole | A0152BUL |
| Three pole  | A0155BUL |
| Four pole   | A0153BUL |

### UNSEALED SWITCHES (IP40) :

add "01" to end of operator model number.

SCREEN ENGRAVING / INSERTABLE LEGENDS : contact APEM.

Bezel: ○ round. 'illum' - illuminated, 'Non-illum' - non illuminated