

# 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 with rectangular, square or round operators.

- Environmental protection : IP65
- Modular construction
- Electrical life : 50.000 cycles min.
- Screen engraving or insertable legends on request
- Approvals (for switch blocks only)



UL 1054 BS RIA 20 Shock & Vibration



EN 61058-1



UG1410A-R1



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.  
*These values are applicable for all components, accessories and lamps, unless otherwise specified in the following pages.*
- 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.  
*These values are applicable for all components, accessories and lamps, unless otherwise specified in the following pages.*
  - 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.

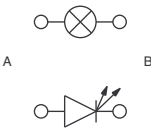
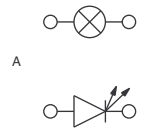
**Dimensions** : first dimensions are in mm while inches are shown as bracketed numbers.

The company reserves the right to change specifications without notice.

# A1-A01-A02-A03 series

## Industrial controls

Specifications for pushbutton, keylock and rotary switches

ELECTRICAL SPECIFICATIONS		
	<b>A01 - A1 - A03</b>	<b>A02</b>
• <b>Function :</b>	Momentary or maintained action	Momentary or maintained action
• <b>Current/voltage rating :</b>	10mA 5VAC min. 6A 250VAC max. - 6A 12VDC max.	25mA 5VAC min. 12A 380VAC - 16A 250VAC max. 12A 12VDC max.
• <b>Contact gap</b>	> 1 mm (.039)	Double break 2 x 1,5 mm (.059)
• <b>Initial contact resistance :</b>	10mΩ max. at 1A 4VDC	10mΩ max. at 1A 4VDC
• <b>Insulation resistance :</b>	50 MΩ min.	50 MΩ min.
• <b>Dielectric strength :</b>	750V between open contacts 5KV live to accessible	2KV between open contacts 4KV live to accessible
• <b>Electrical life (resistive load) :</b>	50.000 cycles	50.000 cycles
• <b>Insulation :</b>	Class 2	Class 2
• <b>Lamp life :</b>	LED : 60.000 h min. to 75% relative luminosity - Filament : approx. 5.000 h Neon : approx. 10.000 h	LED : 60.000 h min. to 75 % relative luminosity - Filament : approx. 5.000 h Neon : approx. 10.000 h
• <b>Lamp circuit diagrams</b>		

GENERAL SPECIFICATIONS		
	<b>A01 - A1 - A03</b>	<b>A02</b>
• <b>Min. mechanical life :</b>	Pushb. momentary : 1 million cycles Pushb. maintained : 100.000 cycles Keylock and rotary : 100.000 cycles	Pushb. momentary: 1 million cycles Pushb. maintained : 100.000 cycles Keylock and rotary : 100.000 cycles
• <b>Panel thickness</b>	8 mm (.315) max.	8 mm (.315) max.
• <b>Operating temperature :</b>	-20°C to +55°C	-20°C to +85°C
• <b>Solder heat resistance :</b> (IEC 68-2-20Tb, method 2)	350°C, 5 sec.	350°C, 5 sec.
• <b>Degree of environmental protection (IEC 529 )</b>	IP 65 front of panel IP 40 back of panel	IP 65 front of panel IP 40 back of panel
• <b>Lamps :</b>	Midget Grooved T1 <sub>3/4</sub> , filament, LED or neon	Midget Grooved T1 <sub>3/4</sub> , filament, LED or neon Special multi-LED array
• <b>Switch terminals :</b>	Solder/quick-connect 2,8 mm (.110)	M3 screws - wire 2 x 0,75 mm <sup>2</sup> max.
• <b>Lamp terminals :</b>	Solder/quick-connect 2,8 mm (.110)	M3 screws Flexible wire 2 x 2,5 mm <sup>2</sup> max. Rigid wire 4 mm <sup>2</sup> max.

For screen engraving or film legends, contact APEM.

# A1 series

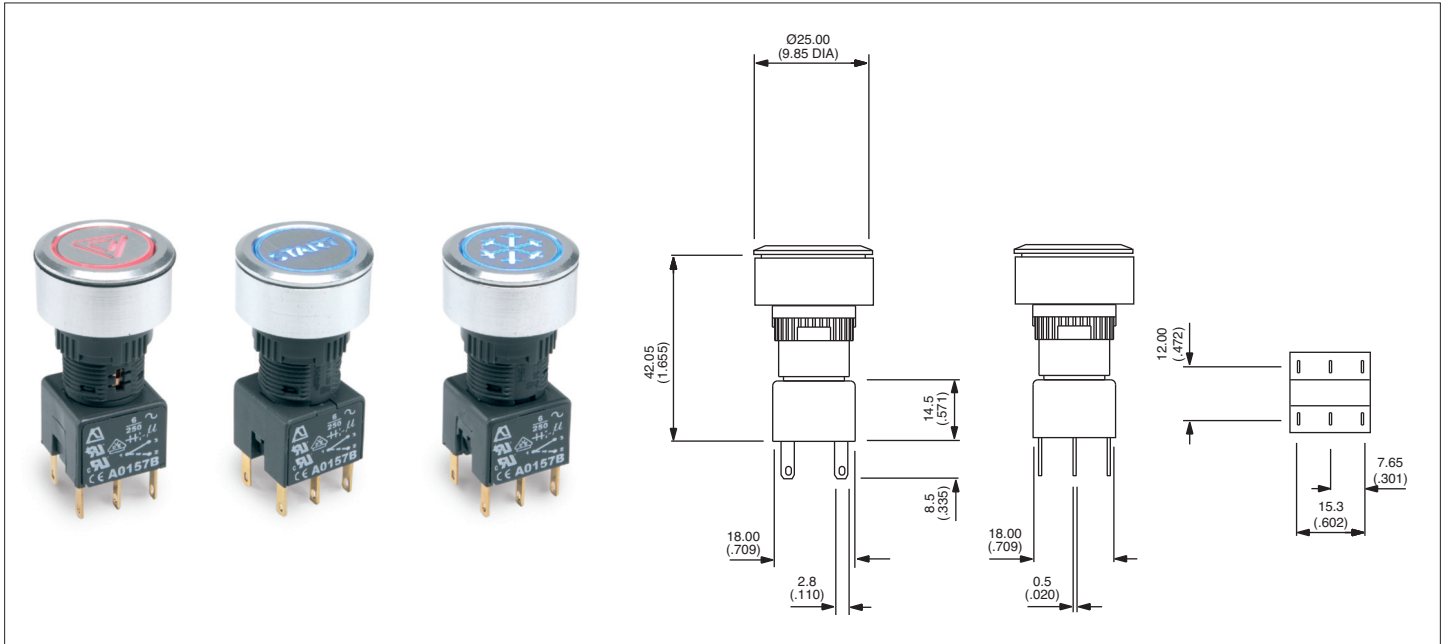
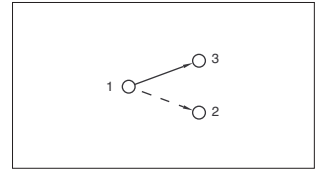
## Engraved aluminium flush mounting pushbuttons and indicators

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> P - pushbutton I - indicator	<b>Bezel</b> C - round	<b>Illumination</b> A - illuminated B - non-illum.	<b>Sealing</b> 0 - unsealed 1 - sealed IP65	<b>Function</b> 0 - indicator X - latching Y - momentary	<b>Switch block</b> 0 - indicator 1 - single pole 2 - double pole 5 - three pole 3 - four pole	<b>Accessories</b> 03 - flushmount			
<b>Bulb</b>									

<b>A1</b> - filament 6.3V
<b>B1</b> - filament 14V
<b>C1</b> - filament 28V
<b>D1</b> - filament 36V
<b>E1</b> - filament 48V
<b>F1</b> - filament 60V
<b>G1</b> - Neon 110V
<b>H1</b> - Neon 220V
<b>I1</b> - Led 6V red
<b>I2</b> - Led 6V green
<b>I3</b> - Led 6V amber
<b>J1</b> - Led 12V red
<b>J2</b> - Led 12V green
<b>J3</b> - Led 12V amber
<b>J4</b> - Led 12V blue
<b>J5</b> - Led 12V white
<b>K1</b> - Led 24V red
<b>K2</b> - Led 24V green
<b>K3</b> - Led 24V amber
<b>K4</b> - Led 24V blue
<b>K5</b> - Led 24V white
<b>L1</b> - Led 48V red
<b>L2</b> - Led 48V green
<b>L3</b> - 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

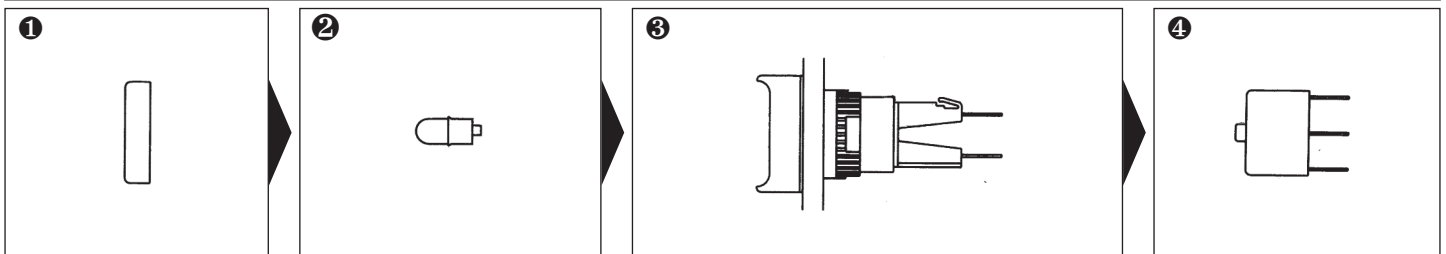
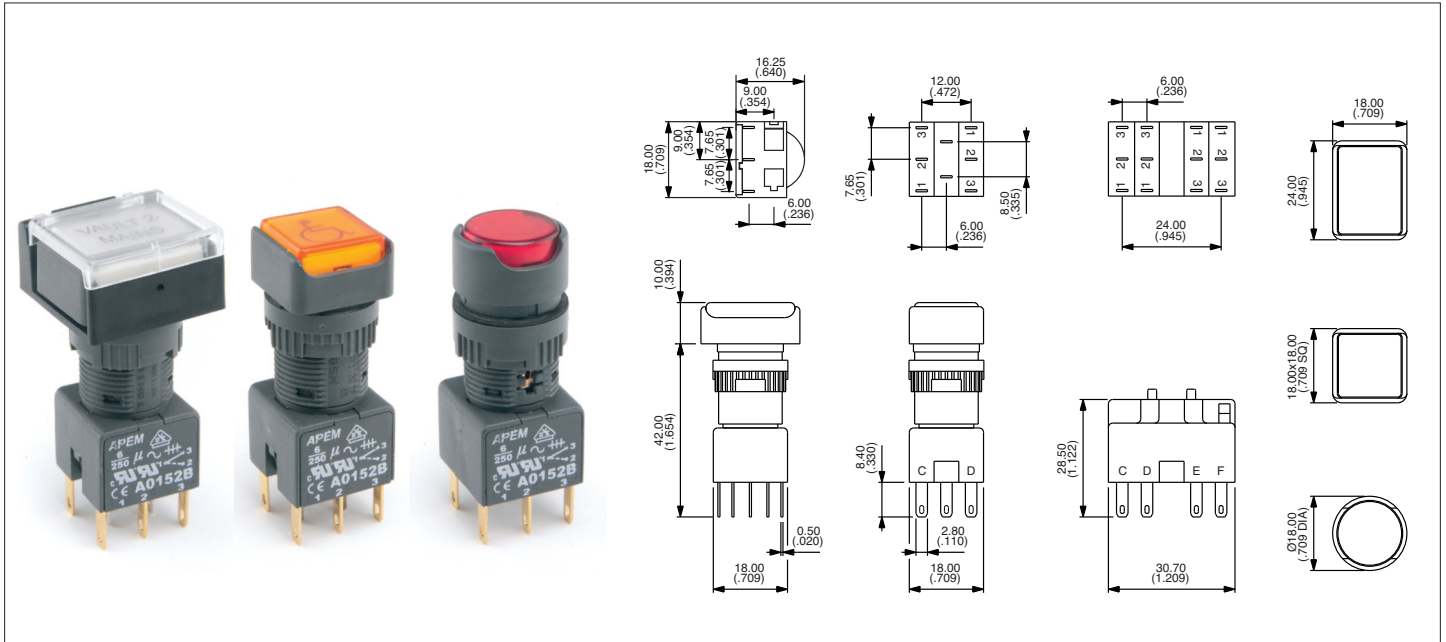
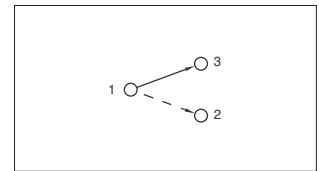
Panel cut-out Ø 16 (.630)

### 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 A0151B.



Screen			Lamp			Operator				Switch block	
Bezel	Colour	Part No	Lamp	Voltage	Part No	Pole	Bezel	Description	Part No	No of poles	Part No
□	black	A0161A	Filament	6.3V	A0141A	1 or 2	□	illum, momentary	A0101Y	Single pole	A0151B
□	red	A0161B	Filament	14V	A0141B	1 or 2	□	illum, maintained	A0101X	Double pole	A0152B
□	amber	A0161C	Filament	28V	A0141C	1 or 2	□	Non-illum, momentary	A0102Y	Three pole	A0155B
□	yellow	A0161D	Filament	36V	A0141D	1 or 2	□	Non-illum, maintained	A0102X	Four pole	A0153B
□	green	A0161E	Filament	48V	A0141E	3 or 4	□	illum, momentary	A0103Y		
□	blue	A0161F	Filament	60V	A0141F	3 or 4	□	illum, maintained	A0103X		
□	clear	A0161G	Neon	110V	A0143G	3 or 4	□	Non-illum, momentary	A0104Y		
□	white	A0161J	Neon	220V	A0143H	3 or 4	□	Non-illum, maintained	A0104X		
□	black	A0162A	LED	6V red	A0142L1	1 or 2	□	illum, momentary	A0105Y		
□	red	A0162B	LED	6V green	A0142L2	1 or 2	□	illum, maintained	A0105X		
□	amber	A0162C	LED	6V amber	A0142L3	1 or 2	□	Non-illum, momentary	A0106Y		
□	yellow	A0162D	LED	12V red	A0142M1	1 or 2	□	Non-illum, maintained	A0106X		
□	green	A0162E	LED	12V green	A0142M2	3 or 4	□	illum, momentary	A0107Y		
□	blue	A0162F	LED	12V amber	A0142M3	3 or 4	□	illum, maintained	A0107X		
□	clear	A0162G	LED	12V blue	A0142M4	3 or 4	□	Non-illum, momentary	A0108Y		
□	white	A0162J	LED	12V white	A0142M5	3 or 4	□	Non-illum, maintained	A0108X		
○	black	A0163A	LED	24V red	A0142N1	1 or 2	○	illum, momentary	A0109Y		
○	red	A0163B	LED	24V green	A0142N2	1 or 2	○	illum, maintained	A0109X		
○	amber	A0163C	LED	24V amber	A0142N3	1 or 2	○	Non-illum, momentary	A0110Y		
○	yellow	A0163D	LED	24V blue	A0142N4	1 or 2	○	Non-illum, maintained	A0110X		
○	green	A0163E	LED	24V white	A0142N5	3 or 4	○	illum, momentary	A0111Y		
○	blue	A0163F	LED	48V red	A0142P1	3 or 4	○	illum, maintained	A0111X		
○	clear	A0163G	LED	48V green	A0142P2	3 or 4	○	Non-illum, momentary	A0112Y		
○	white	A0163J	LED	48V amber	A0142P3	3 or 4	○	Non-illum, maintained	A0112X		

SCREEN ENGRAVING/INSERTABLE LEGENDS : contact APEM

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

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

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

# A01 series

## Indicators

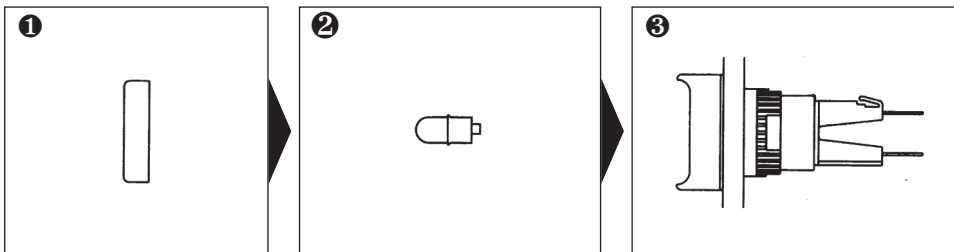
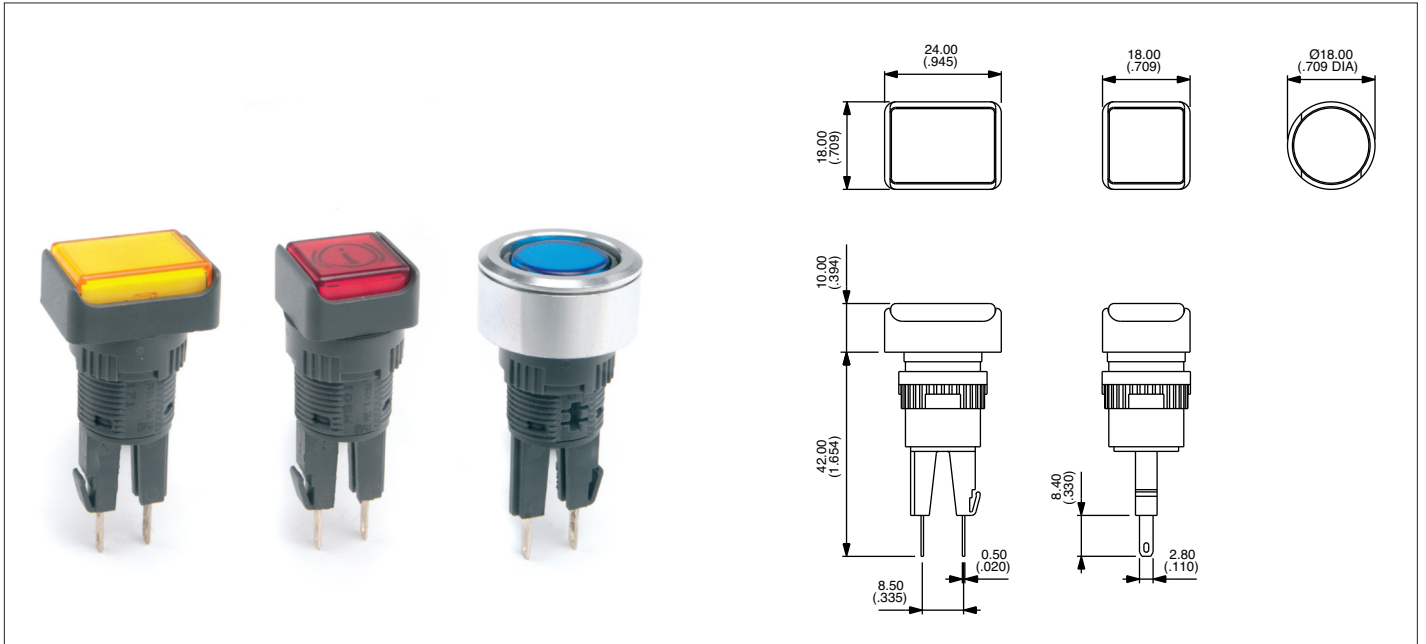
Panel cut-out Ø 16 (.630)

### 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

### Lamp

### Operator

Bezel	Colour	Part No.	Lamp	Voltage	Part No.	Bezel	Description	Part No.
□	black	A0161A	Filament	6.3V	A0141A	□	Indicator	A0171
□	red	A0161B	Filament	14V	A0141B	□	Indicator	A0172
□	amber	A0161C	Filament	28V	A0141C	○	Indicator	A0173
□	yellow	A0161D	Filament	36V	A0141D			
□	green	A0161E	Filament	48V	A0141E			
□	blue	A0161F	Filament	60V	A0141F			
□	clear	A0161G	Neon	110V	A0143G			
□	white	A0161J	Neon	220V	A0143H			
□	black	A0162A	LED	6V red	A0142L1			
□	red	A0162B	LED	6V green	A0142L2			
□	amber	A0162C	LED	6V amber	A0142L3			
□	yellow	A0162D	LED	12V red	A0142M1			
□	green	A0162E	LED	12V green	A0142M2			
□	blue	A0162F	LED	12V amber	A0142M3			
□	clear	A0162G	LED	12V blue	A0142M4			
□	white	A0162J	LED	12V white	A0142M5			
○	black	A0163A	LED	24V red	A0142N1			
○	red	A0163B	LED	24V green	A0142N2			
○	amber	A0163C	LED	24V amber	A0142N3			
○	yellow	A0163D	LED	24V blue	A0142N4			
○	green	A0163E	LED	24V white	A0142N5			
○	blue	A0163F	LED	48V red	A0142P1			
○	clear	A0163G	LED	48V green	A0142P2			
○	white	A0163J	LED	48V amber	A0142P3			

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

SCREEN ENGRAVING / INSERTABLE LEGENDS : contact APEM

Bezel: □ rectangular, ◻ square, ○ round

# A01 series

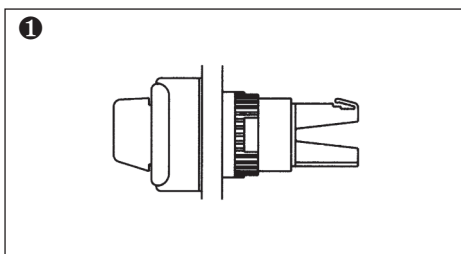
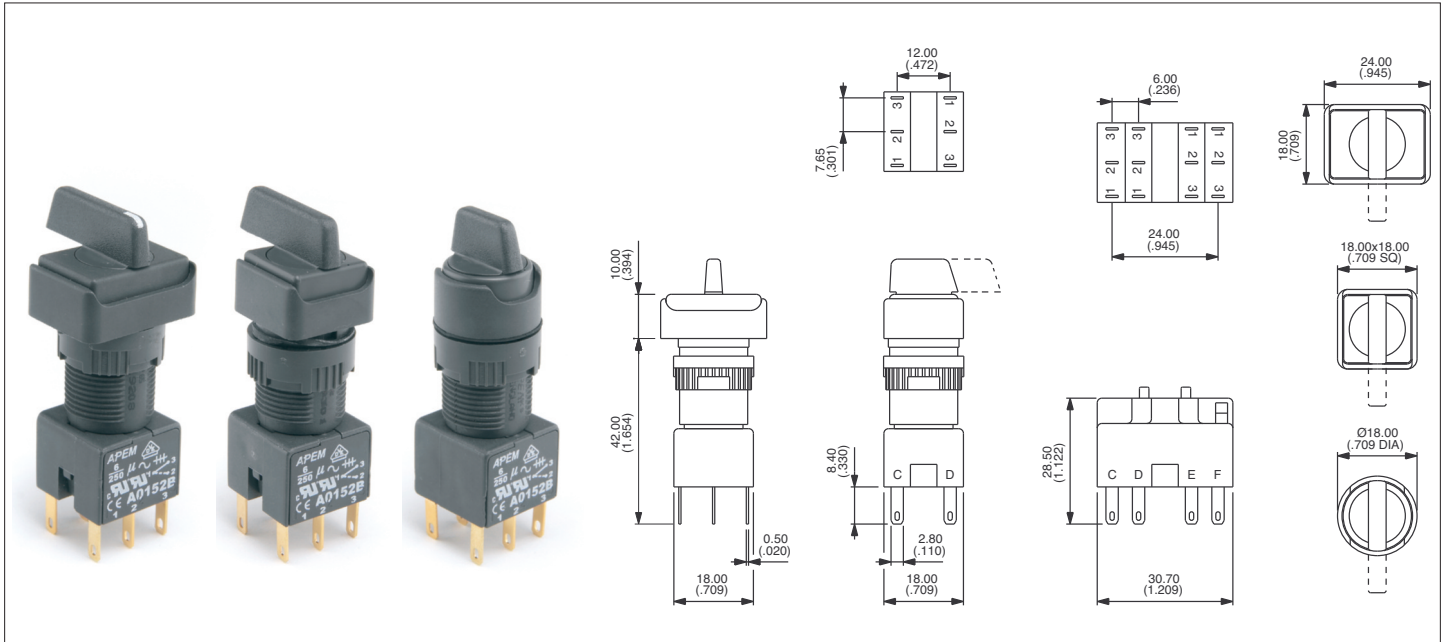
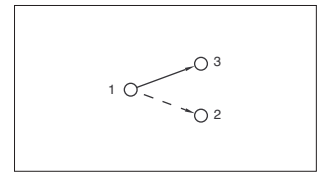
## Rotary lever switches

Panel cut-out Ø 16 (.630)

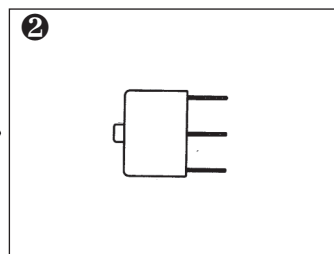
**A rotary lever switch assembly requires :**  
operator + switch block.

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 A0151B.

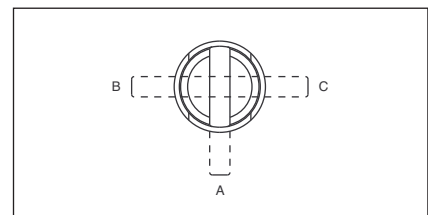


**Operator**



**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	A0151B
1 or 2	□	2 pos. momentary	A019210	A019110•	Double pole	A0152B
3 or 4	□	2 pos. maintained	A019211	A019111•	Three pole	A0155B
3 or 4	□	2 pos. momentary	A019212	A019112•	Four pole	A0153B
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

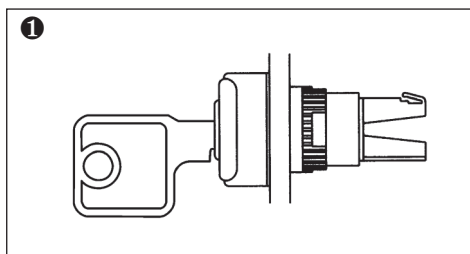
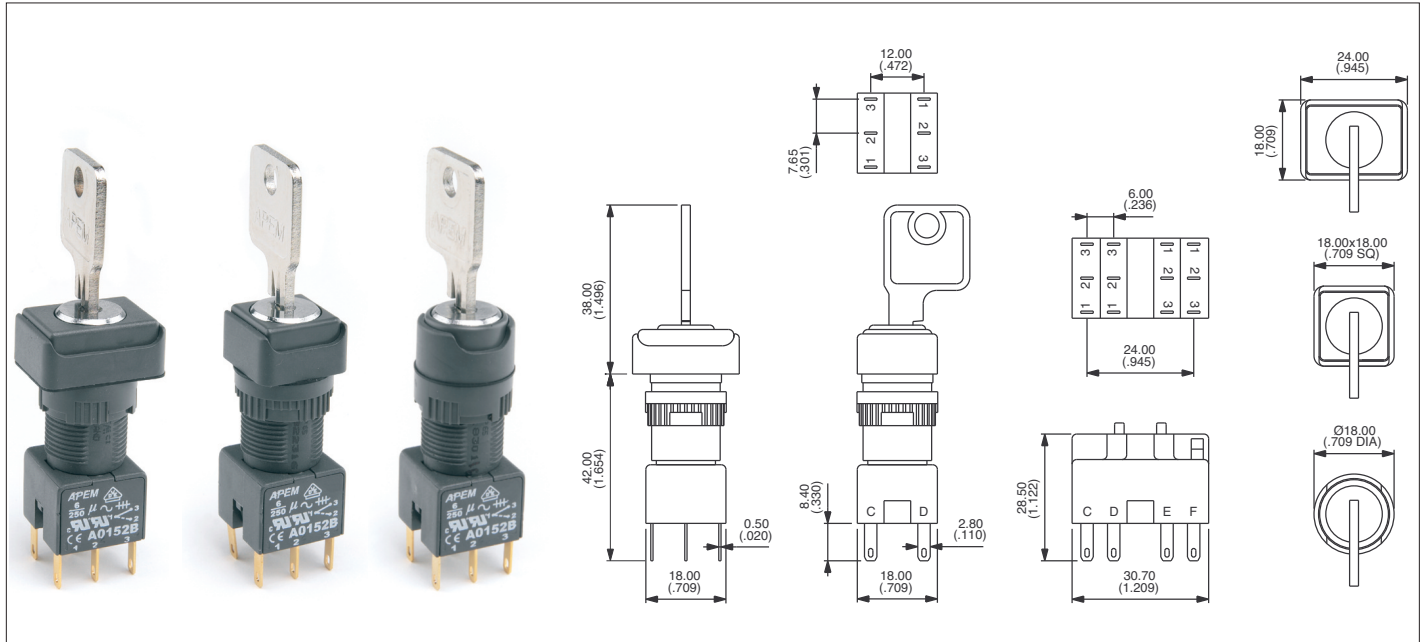
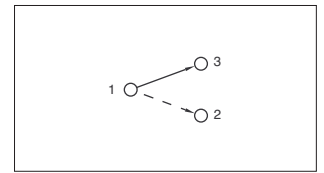
## Keylock switches

Panel cut-out Ø 16 (.630)

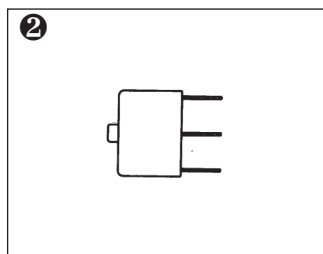
**A keylock switch assembly requires :**  
operator + switch block.

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

**Example :** IP65 rectangular keyswitch, clockwise rotation, single pole, 2 positions, maintained = A018125 and A0151B.

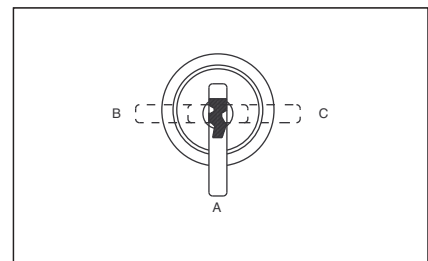


**Operator**



**Switch block**

### Key Positions



Pole	Bezel	Description	Part No	Key removable
1 or 2	□	2 pos. maintained	A018123	A
1 or 2	□	2 pos. maintained	A018125•	A-B
1 or 2	□	2 pos. momentary	A018124•	A
3 or 4	□	2 pos. maintained	A018127•	A-B
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

No of poles	Part No
Single pole	A0151B
Double pole	A0152B
Three pole	A0155B
Four pole	A0153B

#### • 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.

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

Bezel: □ rectangular, □ square, ○ round,

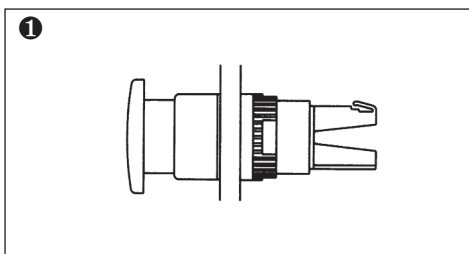
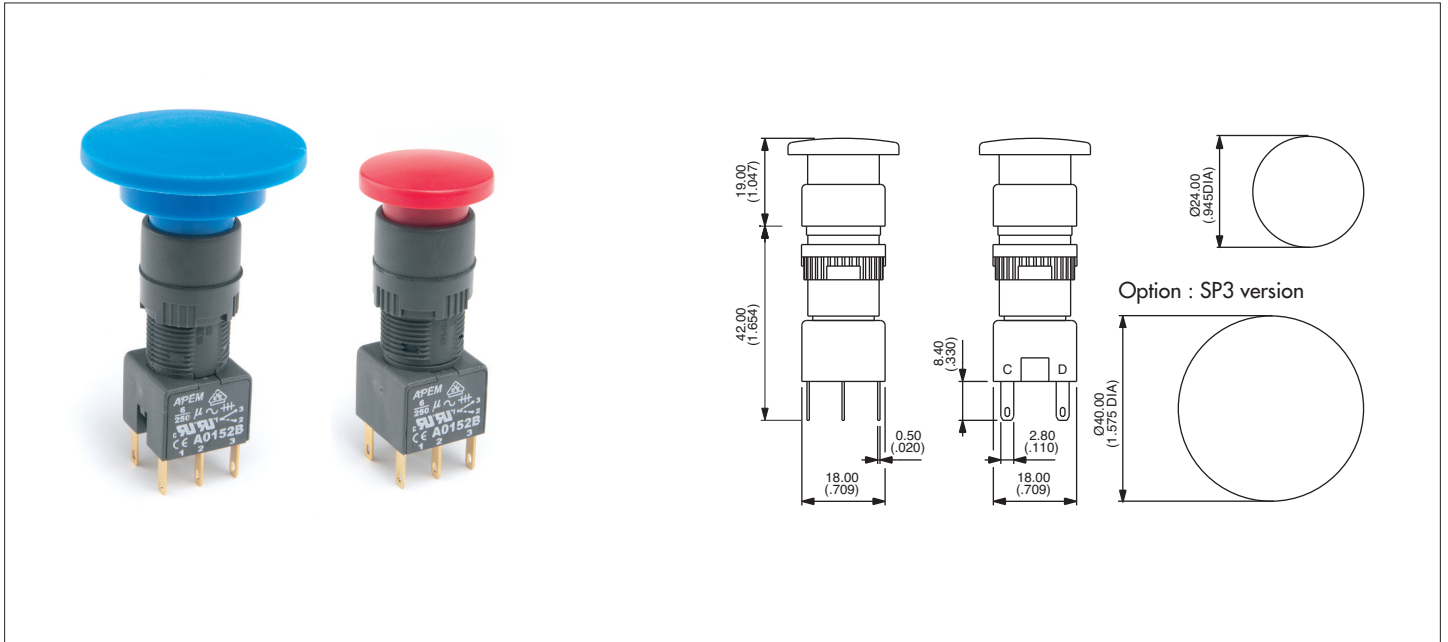
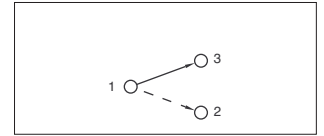
'pos' - position, 'mainL' - maintained left, 'momR' - momentary right, etc

# A01 series

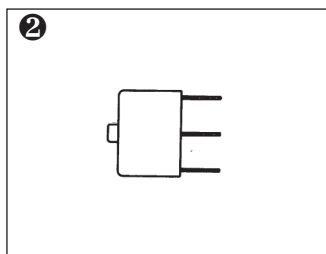
## Mushroom head pushbutton switches

Panel cut-out Ø 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
24mmØ	Black momentary	A01MMA	Single pole	A0151B
24mmØ	Red momentary	A01MMB	Double pole	A0152B
24mmØ	Yellow momentary	A01MMD	Three pole	A0155B
24mmØ	Green momentary	A01MME	Four pole	A0153B
24mmØ	Blue momentary	A01MMF		
24mmØ	Black maintained	A01MXA		
24mmØ	Red maintained	A01MXB		
24mmØ	Yellow maintained	A01MXD		
24mmØ	Green maintained	A01MXE		
24mmØ	Blue maintained	A01MXF		
40mmØ	Black momentary	A01MMA SP3		
40mmØ	Red momentary	A01MMB SP3		
40mmØ	Yellow momentary	A01MMD SP3		
40mmØ	Green momentary	A01MME SP3		
40mmØ	Blue momentary	A01MMF SP3		
40mmØ	Black maintained	A01MXA SP3		
40mmØ	Red maintained	A01MXB SP3		
40mmØ	Yellow maintained	A01MXD SP3		
40mmØ	Green maintained	A01MXE SP3		
40mmØ	Blue maintained	A01MXF SP3		



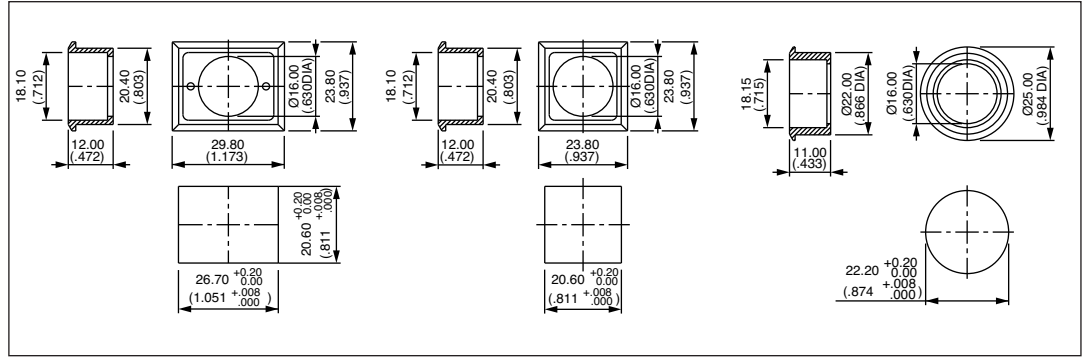
# A1-A01 series

## Industrial controls

### Accessories

#### FLUSH MOUNTING BEZELS

Dark grey plastic material - supplied with sealing washer



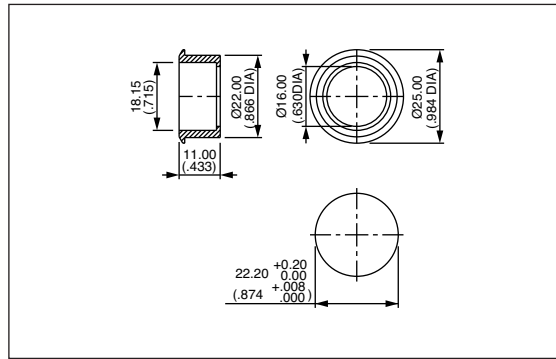
Rectangular A01FM1

Square A01FM

Round A01FM2

#### FLUSH MOUNTING BEZELS

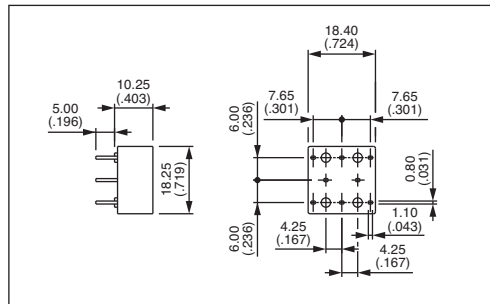
Metal versions



Round, anodised aluminium A01FMM

Round, matt black A01FMMG

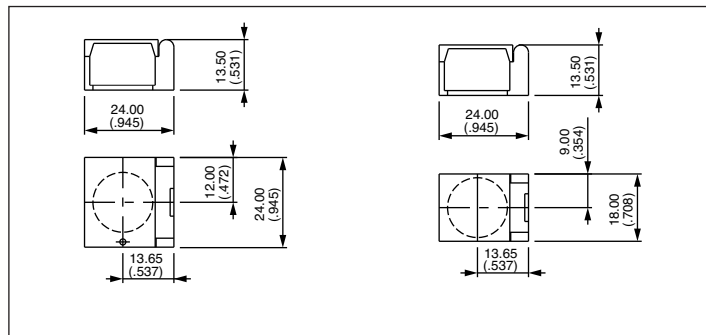
#### PCB SOCKET



Single pole, non illuminated  
 Double pole, non illuminated  
 Single pole, illuminated  
 Double pole, illuminated  
 Indicator  
 Single pole, E-stop  
 Double pole, E-stop

A01PC1  
 A01PC2  
 A01PC3  
 A01PC4  
 A01PC5  
 A01PC6  
 A01PC7

#### FLAPGUARDS



Rectangular A01FG1

Square/round A01FG2

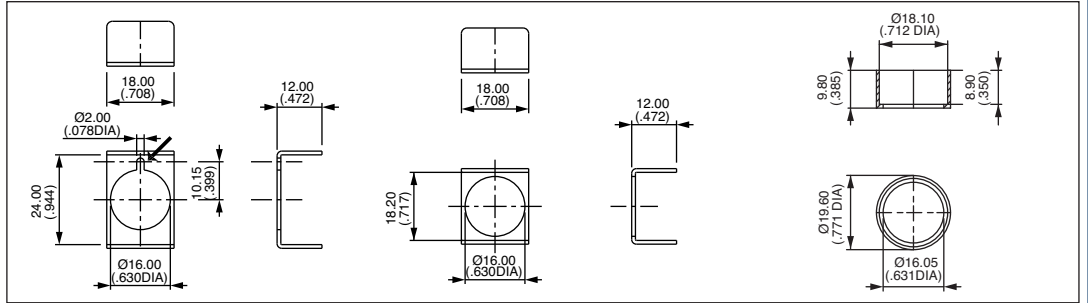
# A1-A01 series

Industrial controls

Accessories

## METAL GUARDS

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



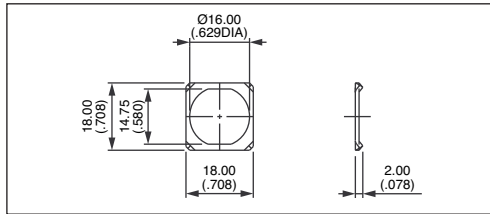
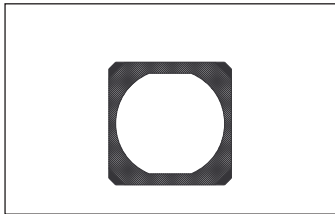
Rectangular **A01MG1**

Square **A01MG**

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

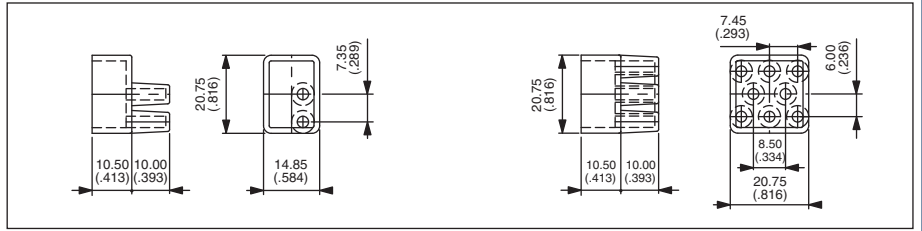
## ANTI ROTATION RING

Recommended to prevent product rotation



**A01LW**

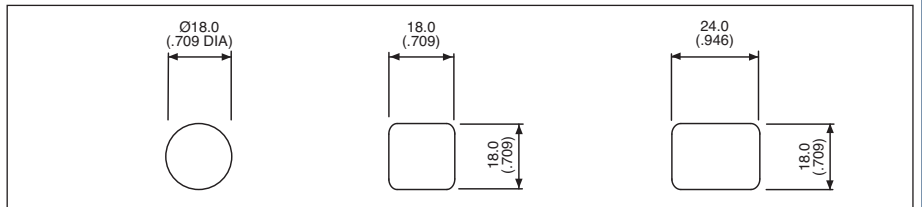
## SWITCHBLOCK TERMINAL GUARDS



2 way **A01RTC2**

8 way **A01RTC8**

## BLANKING PLUGS



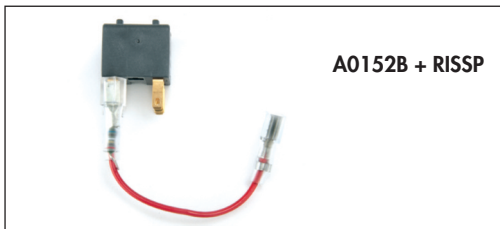
Round **A0133**

Square **A0132**

Rectangular **A0131**

## RESISTOR ASSEMBLY

Resistor assembly - 2 stage illumination



**A0152B + RISSP**



(DIM) normally closed

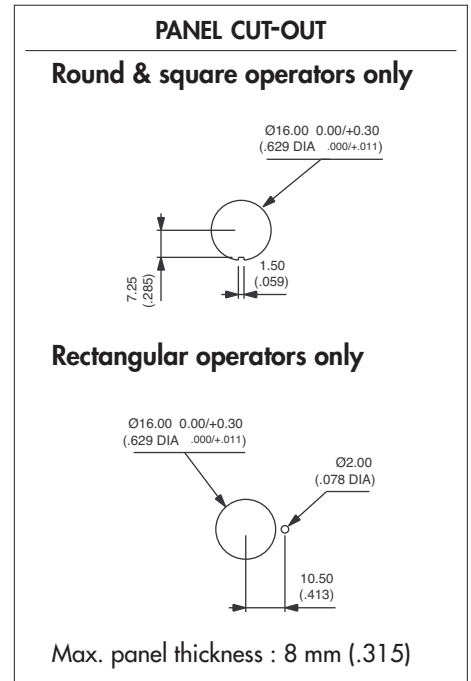
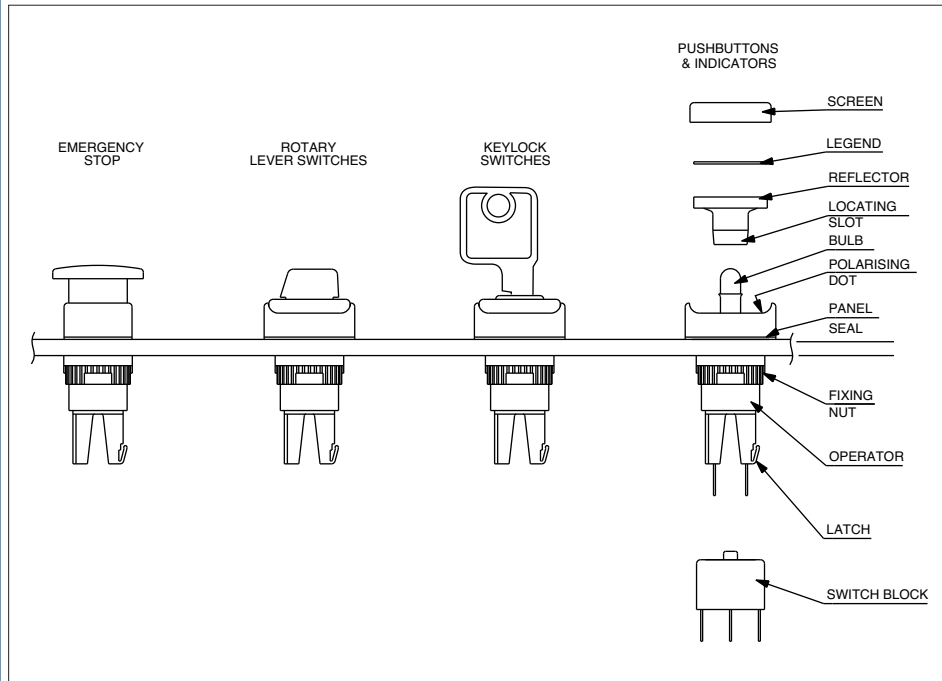
(BRIGHT) normally open

# 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

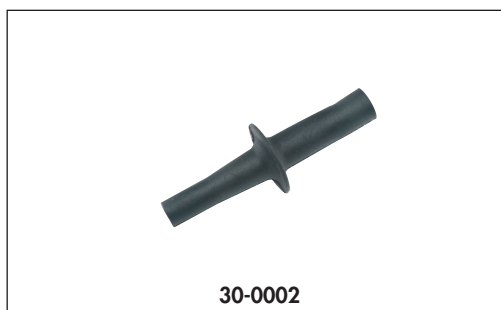
To assemble switch block to front operator, **TAKE CARE TO LINE UP SWITCH BLOCK WITH FRONT OPERATOR**. Once in position, slide on to front operator. NB. : Ensure latch is fully engaged correctly onto the switch block.

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

FIXING NUT KEY



BULB REMOVER



# A02 series

## Illuminated or non-illuminated pushbutton switches

Panel cut-out Ø 22 (.866) or 29,5 x 21,5 (1.160x.846)

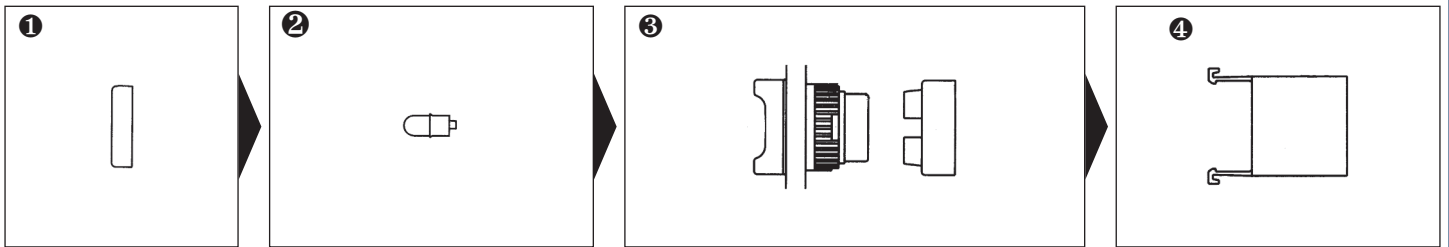
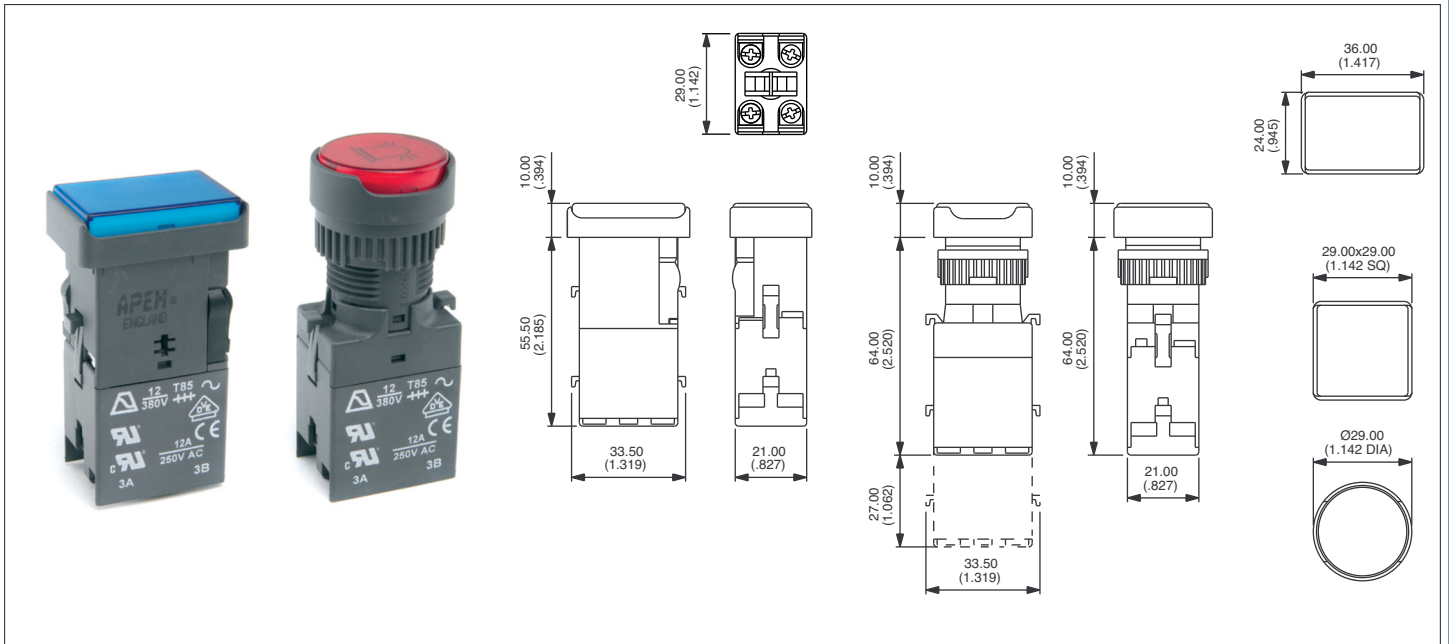
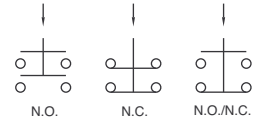
### A pushbutton assembly requires :

screen + lamp (if illuminated) + operator + one or two switch blocks.

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

**Example :** IP65 illuminated rectangular maintained pushbutton, switch block with 2 N.O. contacts, red screen and 12V red LED = A0261B, A0142M1, A0201X and A02503.

UG1410A-R1



Screen			Lamp			Operator			Switch block		
Bezel	Colour	Part No	Lamp	Voltage	Part No	Bezel	Description	Lamp type	Part No	Contacts	Part No
□	black	A0261A	Filament	6.3V	A0141A	□	illum, momentary	Lamp/LED	A0201Y	1 N.O.	A02501
□	red	A0261B	Filament	1.4V	A0141B	□	illum, maintained	Lamp/LED	A0201X	1 N.C.	A02502
□	amber	A0261C	Filament	28V	A0141C	□	Non-illum, maintained		A0203X	2 N.O.	A02503
□	yellow	A0261D	Filament	36V	A0141D	□	Non-illum, momentary		A0203Y	2 N.C.	A02504
□	green	A0261E	Filament	48V	A0141E	□	illum, momentary	Lamp/LED	A0204Y	1 N.O./1 N.C.	A02505
□	blue	A0261F	Filament	60V	A0141F	□	illum, maintained	Lamp/LED	A0204X		
□	clear	A0261G	Neon	110V	A0143G	□	Non-illum, momentary		A0206Y		
□	white	A0261J	Neon	220V	A0143H	□	Non-illum, maintained		A0206X		
□	black	A0262A	LED	6V red	A0142L1	○	illum, momentary	Lamp/LED	A0207Y		
□	red	A0262B	LED	6V green	A0142L2	○	illum, maintained	Lamp/LED	A0207X		
□	amber	A0262C	LED	6V amber	A0142L3	○	Non-illum, momentary		A0209Y		
□	yellow	A0262D	LED	12V red	A0142M1	○	Non-illum, maintained		A0209X		
□	green	A0262E	LED	12V green	A0142M2						
□	blue	A0262F	LED	12V amber	A0142M3						
□	clear	A0262G	LED	12V blue	A0142M4						
□	white	A0262J	LED	12V white	A0142M5						
○	black	A0263A	LED	24V red	A0142N1						
○	red	A0263B	LED	24V green	A0142N2						
○	amber	A0263C	LED	24V amber	A0142N3						
○	yellow	A0263D	LED	24V blue	A0142N4						
○	green	A0263E	LED	24V white	A0142N5						
○	blue	A0263F	LED	48V red	A0142P1						
○	clear	A0263G	LED	48V green	A0142P2						
○	white	A0263J	LED	48V amber	A0142P3						

### Second switch block

Contacts	Part No
1 N.O.	A02506
1 N.C.	A02507
2 N.O.	A02508
2 N.C.	A02509
1 N.O./1 N.C.	A02510

To achieve 3 or 4 pole switching, add second switch block, from above table.

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

### SCREEN ENGRAVING / INSERTABLE LEGENDS : contact APEM.

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

The company reserves the right to change specifications without notice.

# A02 series

## Metal bezel pushbutton switches and indicators

Panel cut-out Ø 22 (.866)

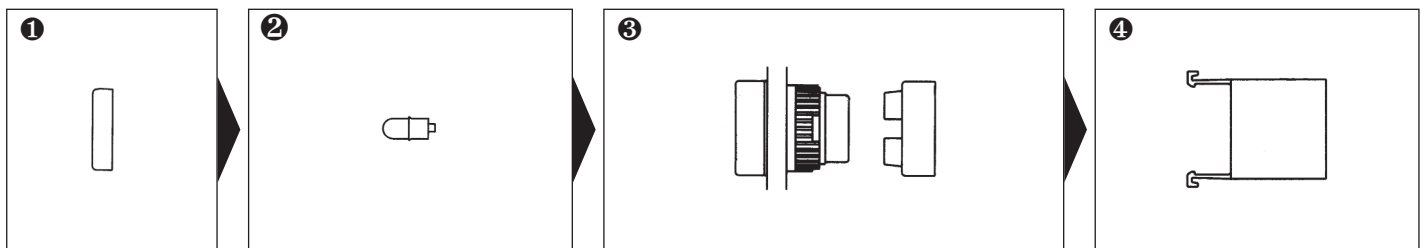
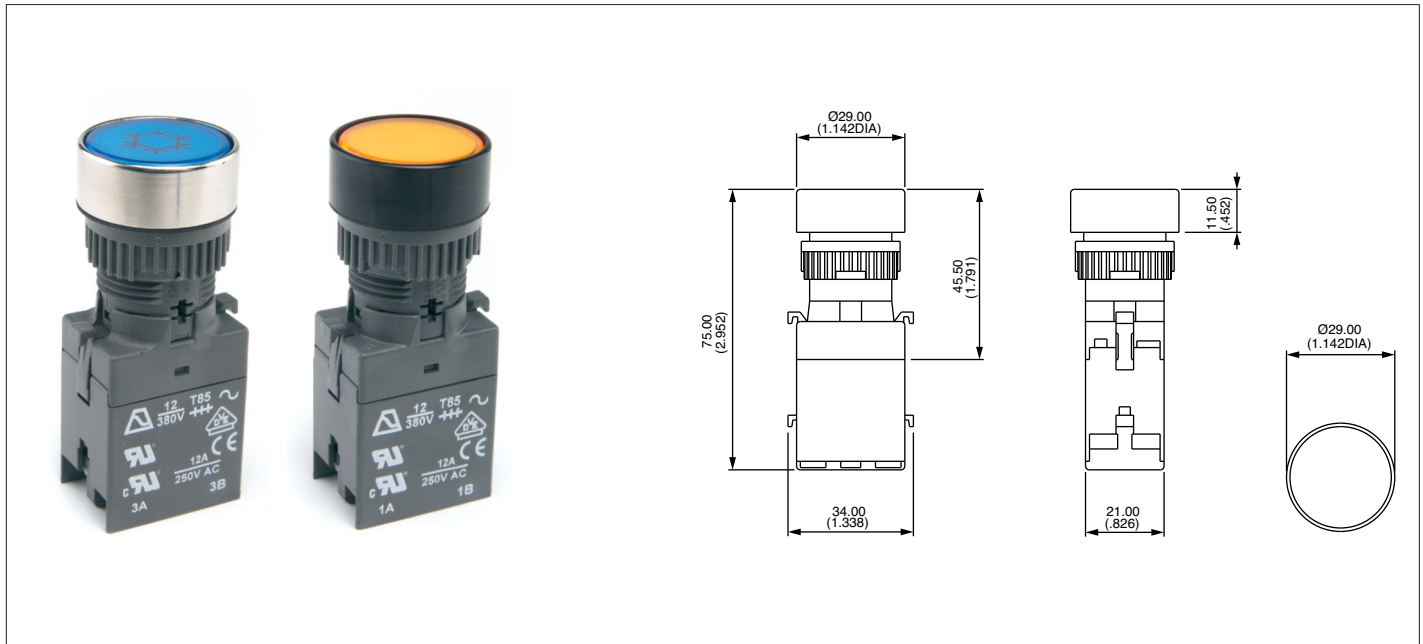
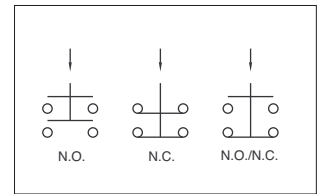
### A pushbutton assembly requires :

screen + lamp (if illuminated) + operator + one or two switch blocks.

**An indicator assembly requires :** screen + lamp + operator

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

**Example :** IP65 illuminated metal bezel maintained pushbutton, switch block with 2 N.O. contacts, red screen and 12V red LED = A0263B, A0142M1, A0211X and A02503.



### 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
○	illum, momentary	Lamp/LED	A0210Y
○	illum, maintained	Lamp/LED	A0210X
○	Non-illum, momentary		A0212Y
○	Non-illum, maintained		A0212X
○	illum, indicator	Lamp/LED	A0277

Std bezel material : nickel plated brass.  
For optional black finish, add "G" to the end of operator model number.

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

### Switch block

Contacts	Part No
1 N.O.	A02501
1 N.C.	A02502
2 N.O.	A02503
2 N.C.	A02504
1 N.O./1 N.C.	A02505

### Second switch block

Contacts	Part No
1 N.O.	A02506
1 N.C.	A02507
2 N.O.	A02508
2 N.C.	A02509
1 N.O./1 N.C.	A02510

To achieve 3 or 4 pole switching, add second switch block, from above table.

SCREEN ENGRAVING / INSERTABLE LEGENDS : contact APEM.

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

# A02 series

## Flush mounting pushbutton switches and indicators

Panel cut-out Ø 30 (1.181)

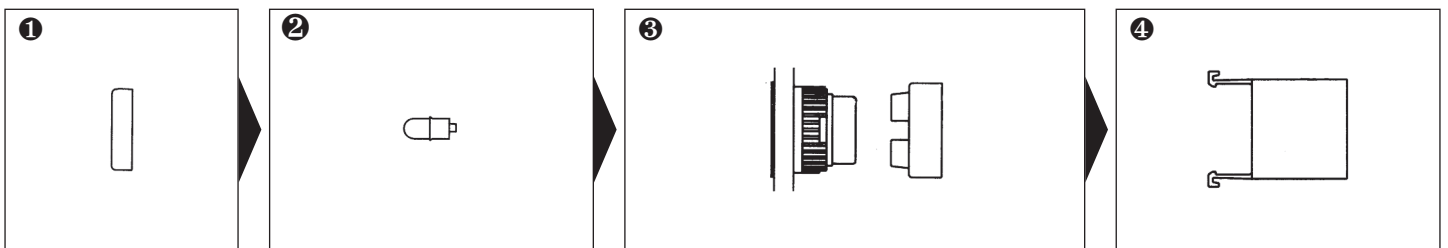
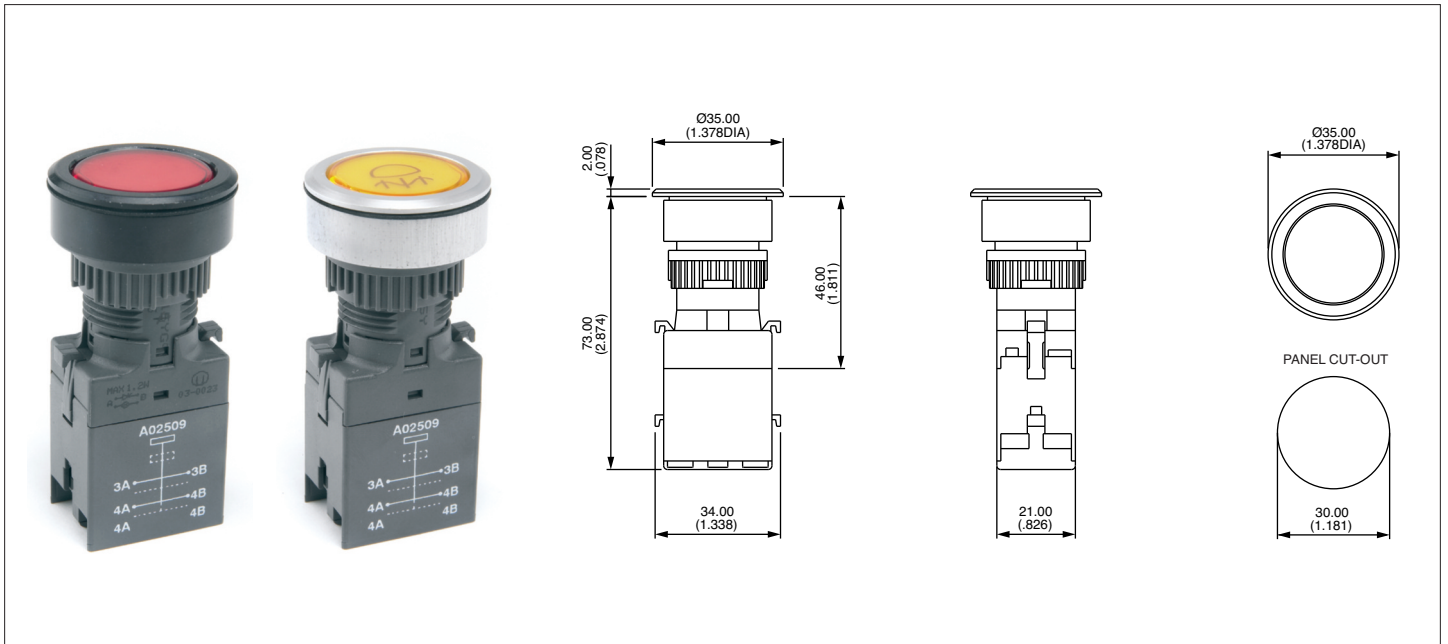
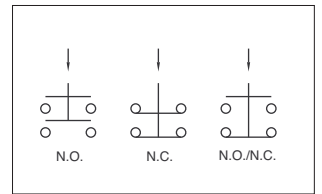
### A pushbutton assembly requires :

screen + lamp (if illuminated) + operator + one or two switch blocks.

**An indicator assembly requires :** screen + lamp + operator

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

**Example :** IP65 illum. flush mounting maintained pushbutton, switch block with 2 N.O. contacts, red screen and 12V red LED = A0263B, A0142M1, A0213X and A02503.



### 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
○	illum, momentary	Lamp/LED	A0214Y
○	illum, maintained	Lamp/LED	A0214X
○	Non-illum, momentary		A0215Y
○	Non-illum, maintained		A0215X
○	illum, indicator	Lamp/LED	A02791

Std bezel material : silver anodised aluminium.  
For optional black anodised aluminium, add "G" to end of operator model number.

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

### Switch block

Contacts	Part No
1 N.O.	A02501
1 N.C.	A02502
2 N.O.	A02503
2 N.C.	A02504
1 N.O./1 N.C.	A02505

### Second switch block

Contacts	Part No
1 N.O.	A02506
1 N.C.	A02507
2 N.O.	A02508
2 N.C.	A02509
1 N.O./1 N.C.	A02510

To achieve 3 or 4 pole switching, add second switch block, from above table.

SCREEN ENGRAVING / INSERTABLE LEGENDS : contact APEM.

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

# A02 series

## Indicators

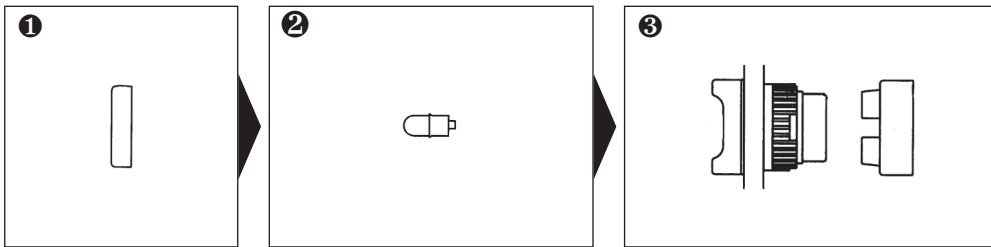
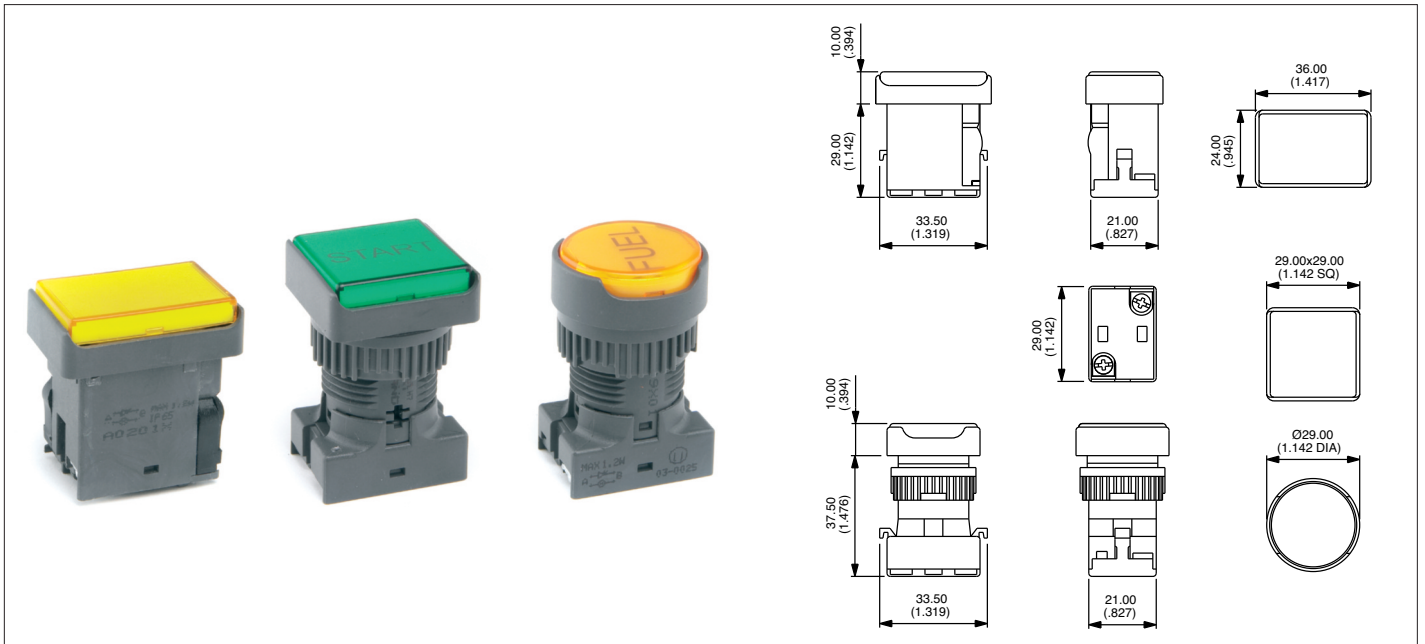
Panel cut-out  $\varnothing$  22 (.866) or 29,5 x 21,5 (1.160x.846)

### An indicator assembly requires :

Screen + lamp, LED or LED assembly + operator.

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

**Example :** IP65 rectangular indicator with red screen and 12V red LED = A0261B, A0142M1 and A0272.



### Screen

### Lamp

### Operator

Bezel	Colour	Part No	Lamp	Voltage	Part No
□	black	A0261A	Filament	6.3V	A0141A
□	red	A0261B	Filament	14V	A0141B
□	amber	A0261C	Filament	28V	A0141C
□	yellow	A0261D	Filament	36V	A0141D
□	green	A0261E	Filament	48V	A0141E
□	blue	A0261F	Filament	60V	A0141F
□	clear	A0261G	Neon	110V	A0143G
□	white	A0261J	Neon	220V	A0143H
□	black	A0262A	LED	6V red	A0142L1
□	red	A0262B	LED	6V green	A0142L2
□	amber	A0262C	LED	6V amber	A0142L3
□	yellow	A0262D	LED	12V red	A0142M1
□	green	A0262E	LED	12V green	A0142M2
□	blue	A0262F	LED	12V amber	A0142M3
□	clear	A0262G	LED	12V blue	A0142M4
□	white	A0262J	LED	12V white	A0142M5
○	black	A0263A	LED	24V red	A0142N1
○	red	A0263B	LED	24V green	A0142N2
○	amber	A0263C	LED	24V amber	A0142N3
○	yellow	A0263D	LED	24V blue	A0142N4
○	green	A0263E	LED	24V white	A0142N5
○	blue	A0263F	LED	48V red	A0142P1
○	clear	A0263G	LED	48V green	A0142P2
○	white	A0263J	LED	48V amber	A0142P3

Bezel	Description	Lamp type	Part No
□	Indicator	Lamp/LED	A0271
□	Indicator	Lamp/LED	A0273
○	Indicator	Lamp/LED	A0275

### UNSEALED INDICATORS (IP40) :

add "01" to end of operator model number.

SCREEN ENGRAVING / INSERTABLE LEGENDS : contact APEM.

Bezel: □ rectangular, □ square, ○ round,

# A02 series

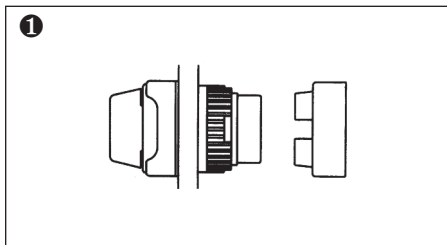
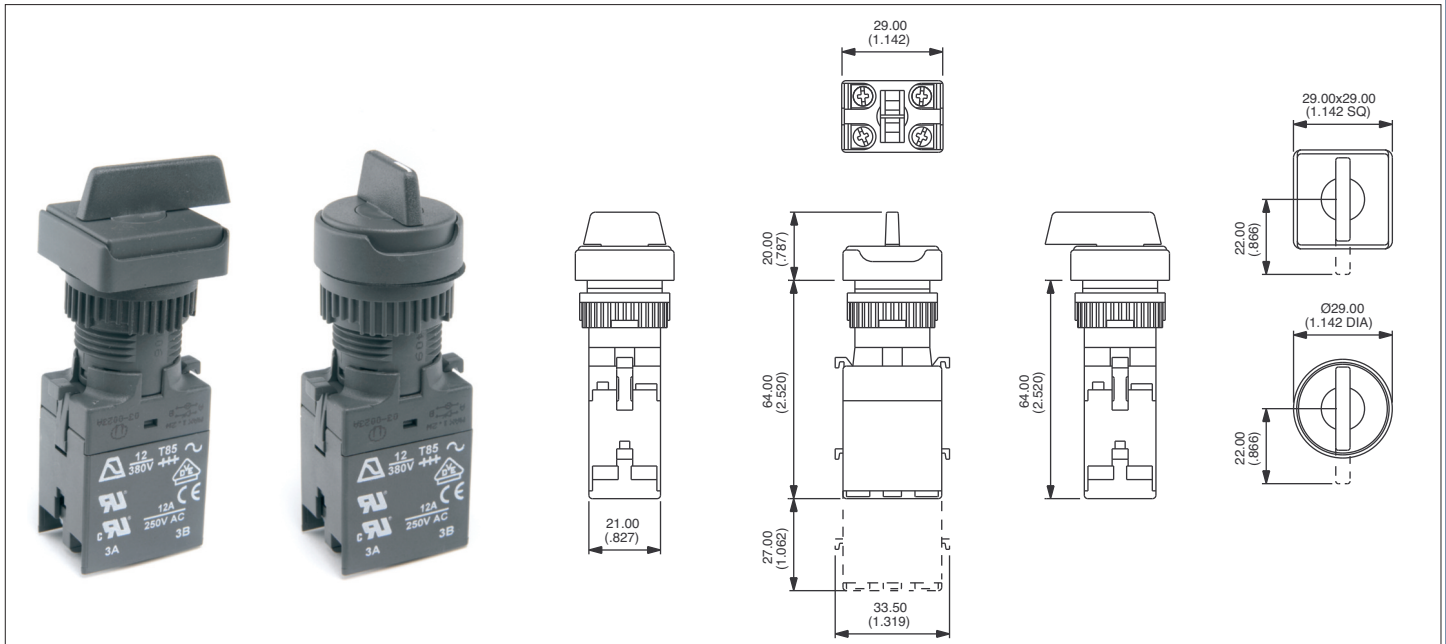
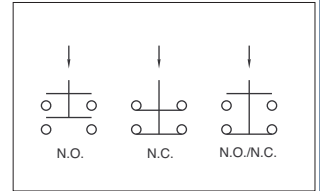
## Rotary switches

Panel cut-out Ø 22 (.866)

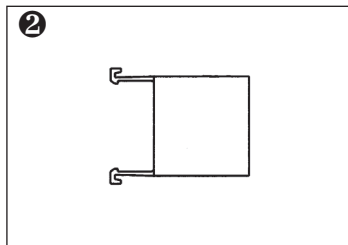
**A rotary lever assembly requires :**  
operator + one or two switch blocks.

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

**Example :** IP65 square 2 position maintained rotary switch with long lever, clockwise rotation, switch block with 2 N.O. contacts = A029107 and A02503.

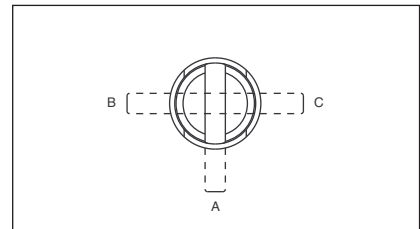


**Operator**



**Switch block**

### Lever positions



#### • Lever Rotation - 2 position switches

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

For anticlockwise rotation, replace :

**07** with **01**  
**08** with **02**

at the end of the model number.

### Optional engraving on lever end



To order, add "WL" to the end of the part No.  
Example : A029407WL.

Bezel	Description	Short lever	Long lever
<input type="checkbox"/>	2 pos. maintained	A029207	A029107*
<input type="checkbox"/>	2 pos. momentary	A029208	A029108*
<input type="checkbox"/>	3 pos. maintained	A029203	A029103
<input type="checkbox"/>	3 pos. momentary	A029204	A029104
<input type="checkbox"/>	3 pos. mainL, momR	A029205	A029105
<input type="checkbox"/>	3 pos. momL, mainR	A029206	A029106
<input type="checkbox"/>	2 pos. maintained	A029407	A029307*
<input type="checkbox"/>	2 pos. momentary	A029408	A029308*
<input type="checkbox"/>	3 pos. maintained	A029403	A029303
<input type="checkbox"/>	3 pos. momentary	A029404	A029304
<input type="checkbox"/>	3 pos. mainL, momR	A029405	A029305
<input type="checkbox"/>	3 pos. momL, mainR	A029406	A029306

#### OPTION

To specify flush mounting (Ø 30 mm) option, add "FM" to the end of the part number (for round operators only).

Example : A029407FM.

Contacts	Part No
1 N.O.	A02501
1 N.C.	A02502
2 N.O.	A02503
2 N.C.	A02504
1 N.O./1 N.C.	A02505

### Second switch block

Contacts	Part No
1 N.O.	A02506
1 N.C.	A02507
2 N.O.	A02508
2 N.C.	A02509
1 N.O./1 N.C.	A02510

To achieve 3 or 4 pole switching, add second switch block, from above table.

Bezel:  square,  round,



# A02 series

## Keylock switches

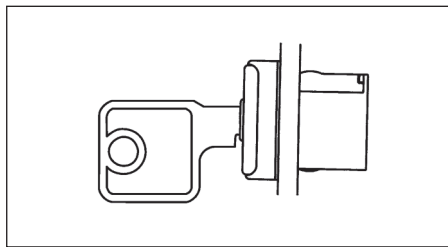
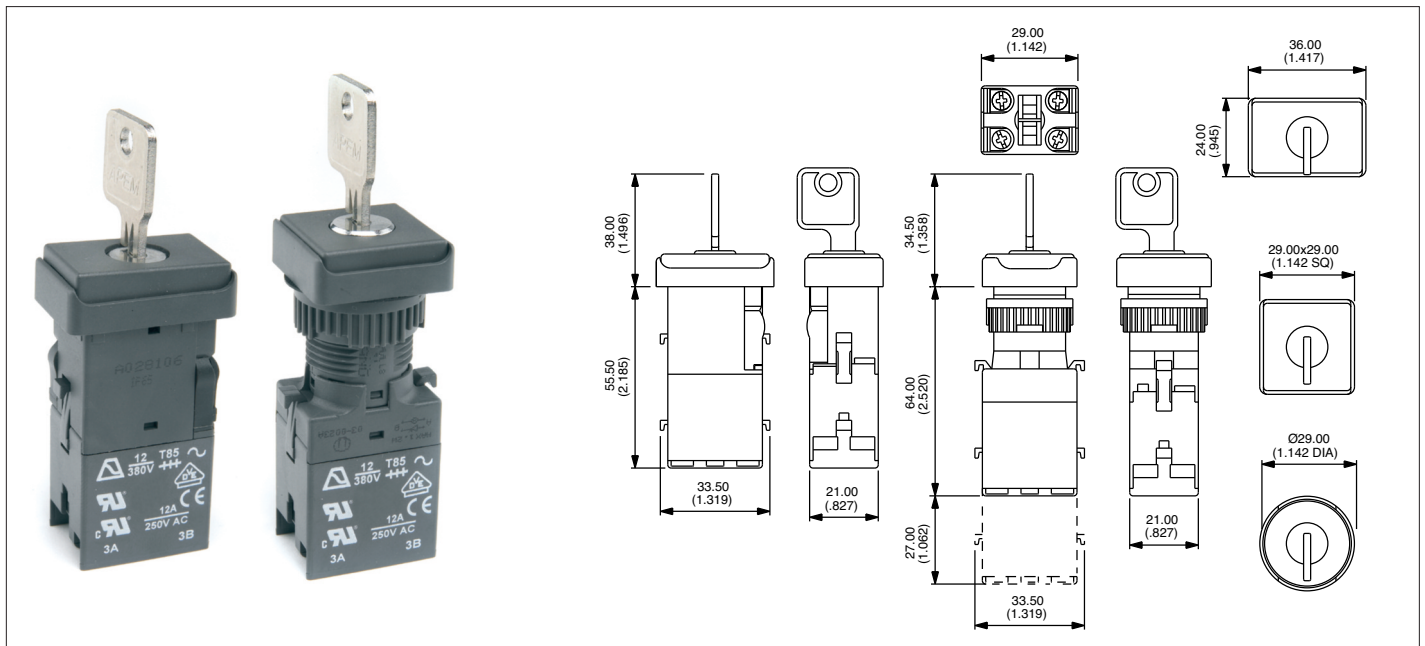
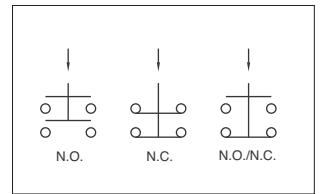
Panel cut-out Ø 22 or 29,5 x 21,5

### A keyswitch assembly requires :

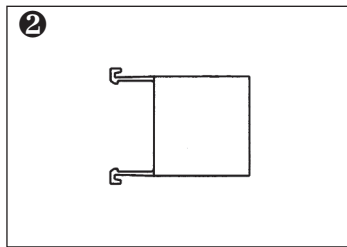
operator + one or two switch blocks.

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

**Example :** IP65 square 2 position keyswitch, clockwise rotation, switch block with 2 N.O. contacts = A028220 and A02503.

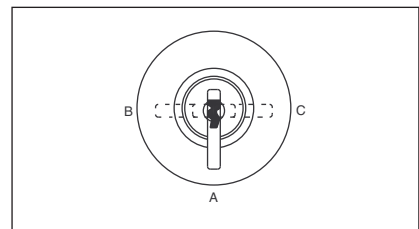


**Operator**



**Switch block**

### Key positions



#### • Key Rotation - 2 position switches

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

For anticlockwise rotation, replace:

**20** with **01**  
**19** with **02**

at the end of the model number

• 2 standard keys are supplied.

• 20 key barrel types available.

**Non-removable key positions :** contact APEM.

Bezel	Description	Part No	Key removable in positions
□	2 pos. maintained	<b>A028120</b>	A-B
□	2 pos. momentary	<b>A028119</b>	A
□	3 pos. maintained	<b>A028105</b>	A-B-C
□	3 pos. momentary	<b>A028106</b>	A
□	3 pos. mainL, momR	<b>A028107</b>	A-B
□	3 pos. momL, mainR	<b>A028108</b>	A-C
□	2 pos. maintained	<b>A028220</b>	A-B
□	2 pos. momentary	<b>A028219</b>	A
□	3 pos. maintained	<b>A028205</b>	A-B-C
□	3 pos. momentary	<b>A028206</b>	A
□	3 pos. mainL, momR	<b>A028207</b>	A-B
□	3 pos. momL, mainR	<b>A028208</b>	A-C
○	2 pos. maintained	<b>A028320</b>	A-B
○	2 pos. momentary	<b>A028319</b>	A
○	3 pos. maintained	<b>A028305</b>	A-B-C
○	3 pos. momentary	<b>A028306</b>	A
○	3 pos. mainL, momR	<b>A028307</b>	A-B
○	3 pos. momL, mainR	<b>A028308</b>	A-C

Contacts	Part No
1 N.O.	<b>A02501</b>
1 N.C.	<b>A02502</b>
2 N.O.	<b>A02503</b>
2 N.C.	<b>A02504</b>
1 N.O./1 N.C.	<b>A02505</b>

### Second switch block

Contacts	Part No
1 N.O.	<b>A02506</b>
1 N.C.	<b>A02507</b>
2 N.O.	<b>A02508</b>
2 N.C.	<b>A02509</b>
1 N.O./1 N.C.	<b>A02510</b>

To achieve 3 or 4 pole switching, add second switch block, from above table

### OPTION

To specify flush mounting (Ø 30 mm) option, add "FM" to the end of the part number (for round operators only). Example : A028320FM.

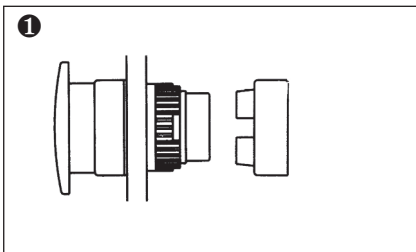
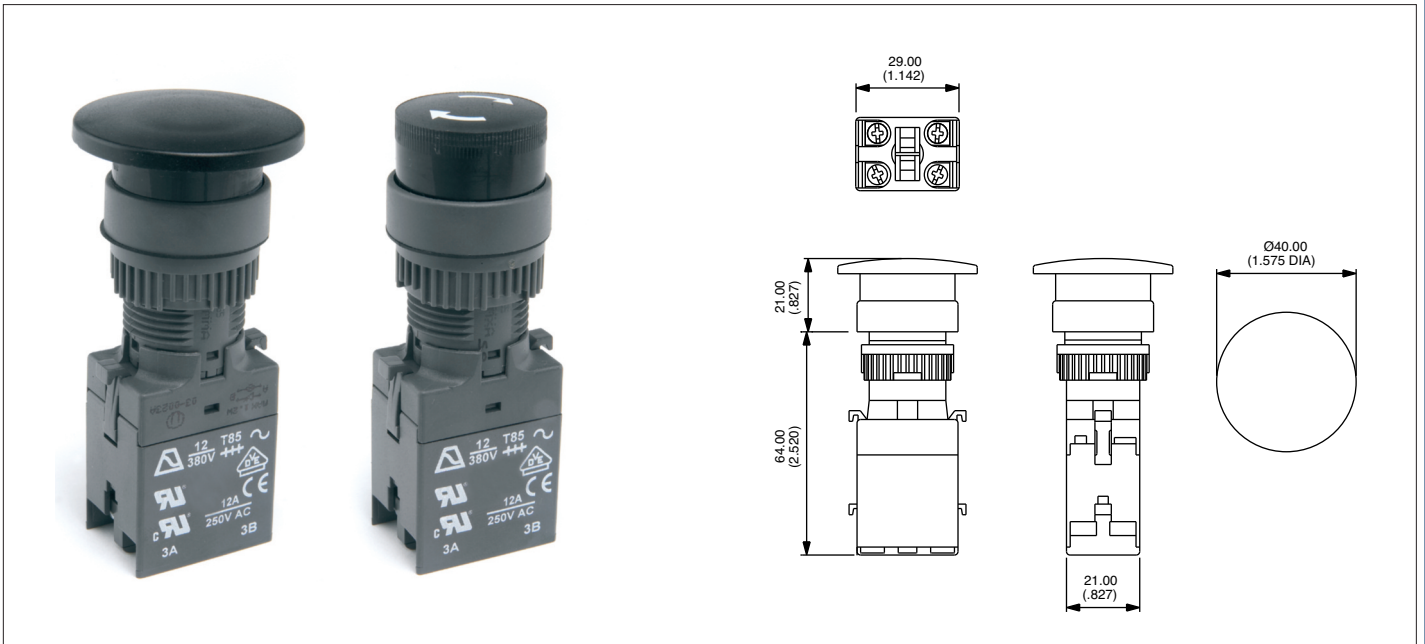
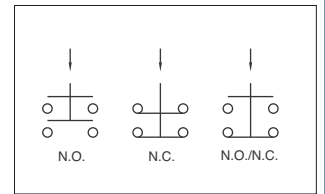
Bezel: □ rectangular, □ square, ○ round,

# A02 series

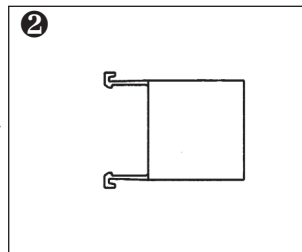
## Mushroom head pushbutton switches

Panel cut-out Ø 22 (.866)

- Prominent 40 mm (1.575) dia. mushroom actuator or optional 26 mm (1.024) actuator
- Momentary and maintained functions  
Momentary function versions are unmarked  
Maintained function versions are twist to release (arrows indicate direction of twist)
- Various coloured mushroom actuators are available



**Operator**



**Switch block**

Bezel	Description	Part No
○	Black momentary	A02MMA
○	Red momentary	A02MMB
○	Yellow momentary	A02MMD
○	Green momentary	A02MME
○	Blue momentary	A02MMF
○	Black maintained	A02MXA
○	Red maintained	A02MXB
○	Yellow maintained	A02MXD
○	Green maintained	A02MXE
○	Blue maintained	A02MXF

Contacts	Part No
1 N.O.	A02501
1 N.C.	A02502
2 N.O.	A02503
2 N.C.	A02504
1 N.O./1 N.C.	A02505

### Second switch block

Contacts	Part No
1 N.O.	A02506
1 N.C.	A02507
2 N.O.	A02508
2 N.C.	A02509
1 N.O./1 N.C.	A02510

#### OPTION

For optional reduced (Ø 26 mm) mushroom head operators : contact APEM.

To achieve 3 or 4 pole switching, add second switch block, from above table

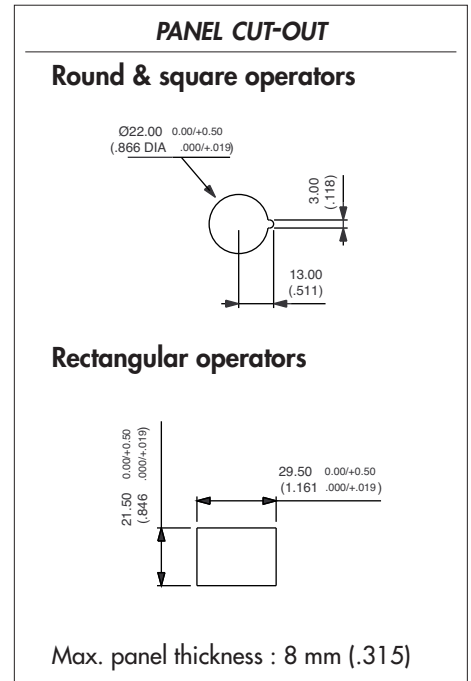
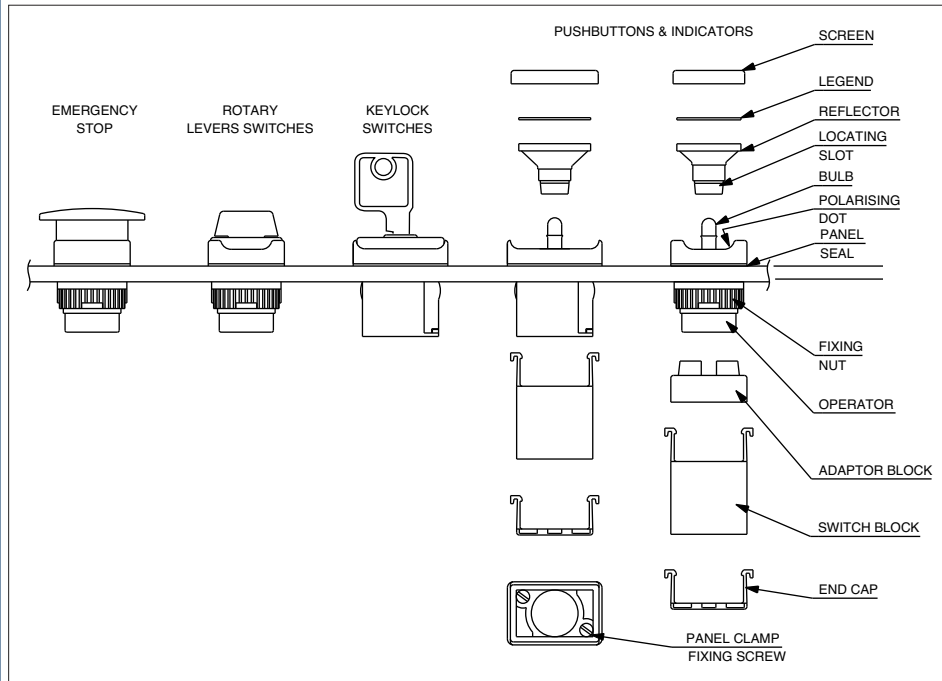
Bezel: ○ round

# 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 0,06Nm.
- 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.

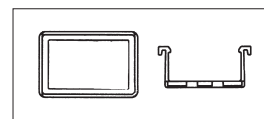
### TO REMOVE BULB

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

### TO REMOVE SWITCH BLOCK

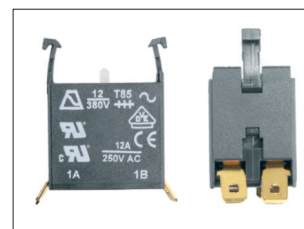
Lever out latches using small screwdriver taking care not to overbend, and pull off the block from the front operator.

### 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.

# A03 series

## Illuminated or non-illuminated pushbutton switches and indicators

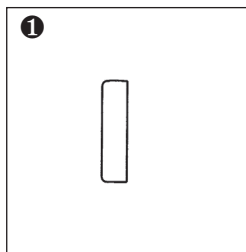
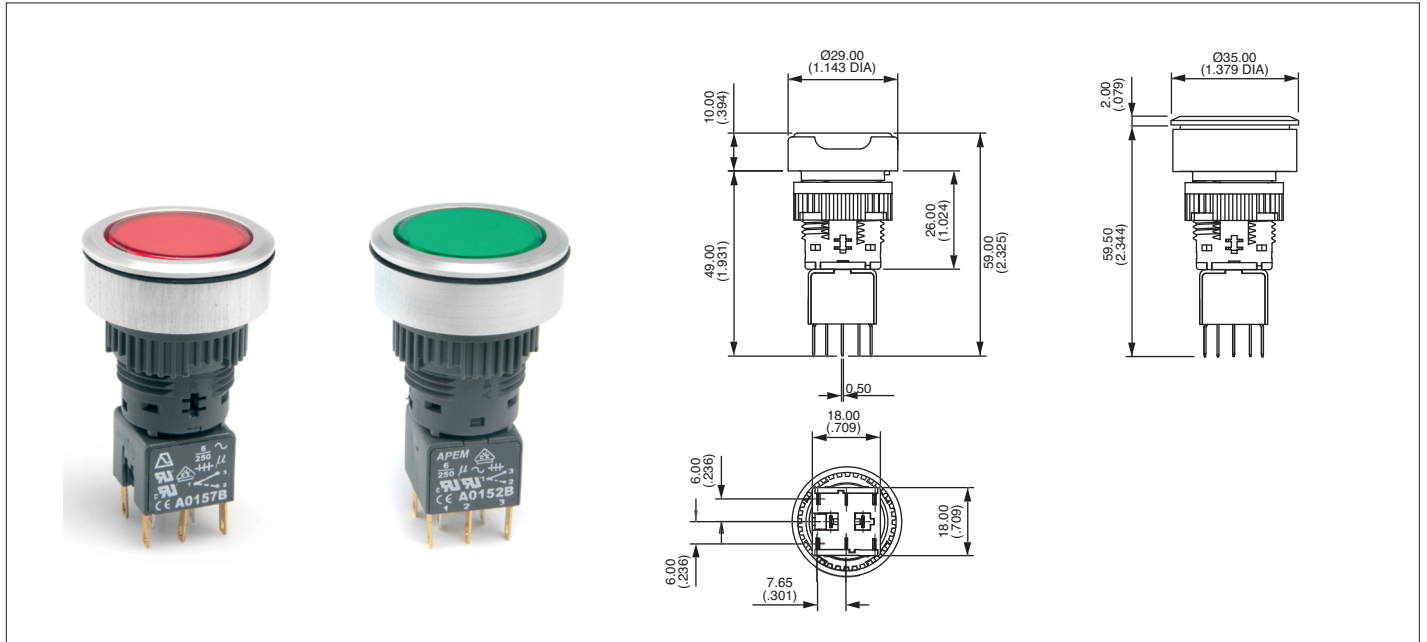
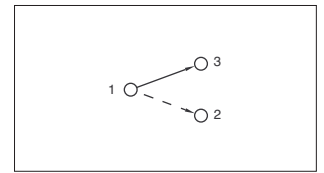
Panel cut-out Ø 22 (.866) or 30 (1.181) - Plastic or metal flush mounting bezel

### A pushbutton assembly requires :

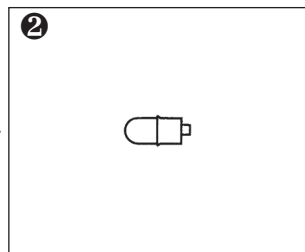
screen + lamp (if illuminated) + operator + switch block.

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

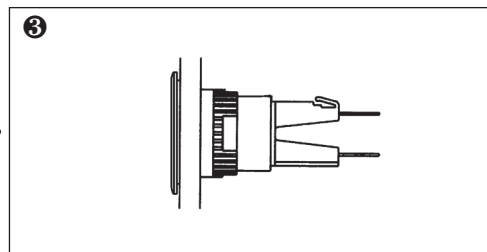
**Example :** IP65 flush mounting round pushbutton, maintained function, red screen, 12V red LED and single pole switch block = A0314X, A0263B, A0142M1 and A0151B.



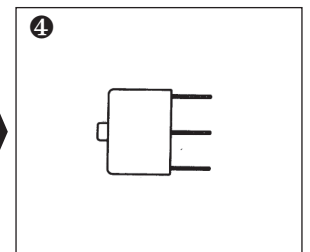
**Screen**



**Lamp**



**Operator**



**Switch block**

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

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

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

No of poles	Part No
Single pole	A0151B
Double pole	A0152B
Three pole	A0155B
Four pole	A0153B

**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

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