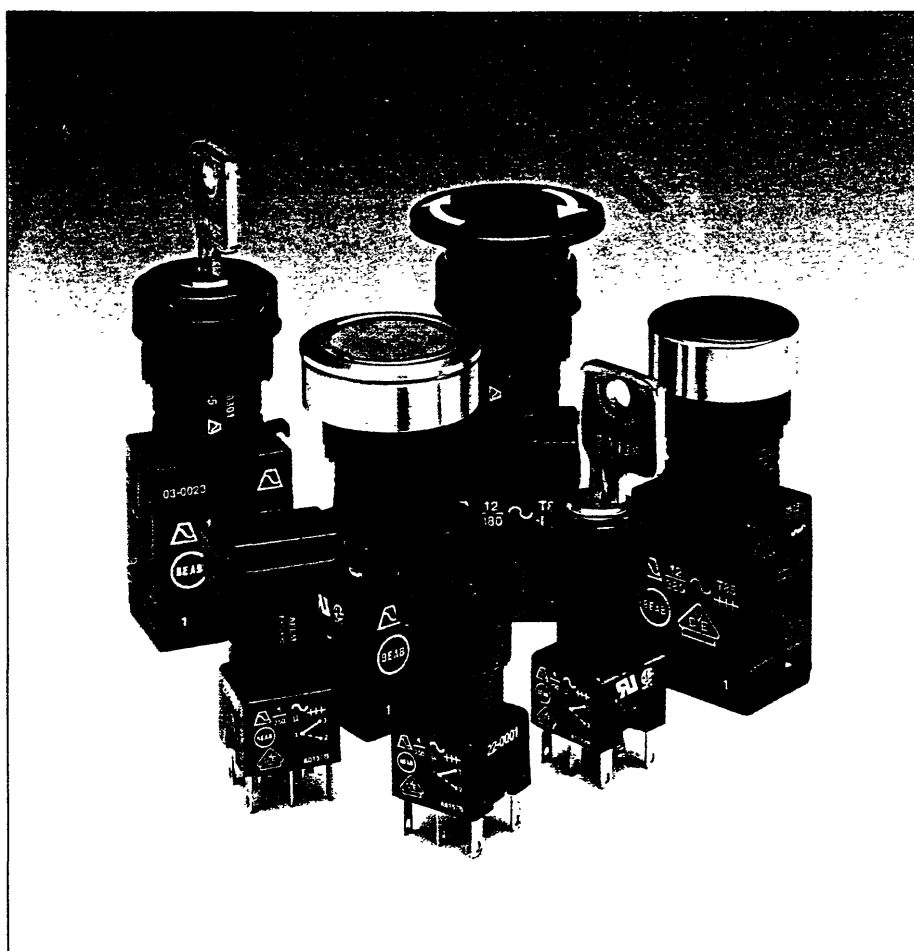




A P E M

APEM COMPONENTS LIMITED



Illuminated pushbuttons and indicators, Keylock, Lever
and Emergency Stop Switches

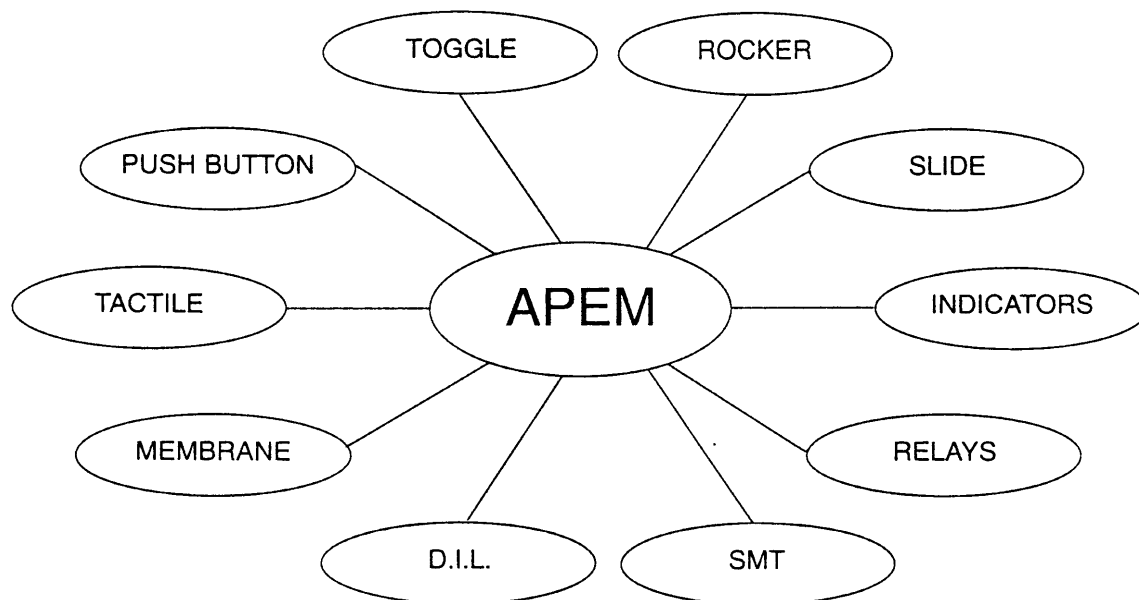
MADE IN THE UK



A P E M

APEM ranks among one of Europe's largest Manufacturers of both Miniature and Industrial Switches. More than 62% of the products are exported through a network of 5 subsidiaries and more than 130 distributors and agents on the five continents.

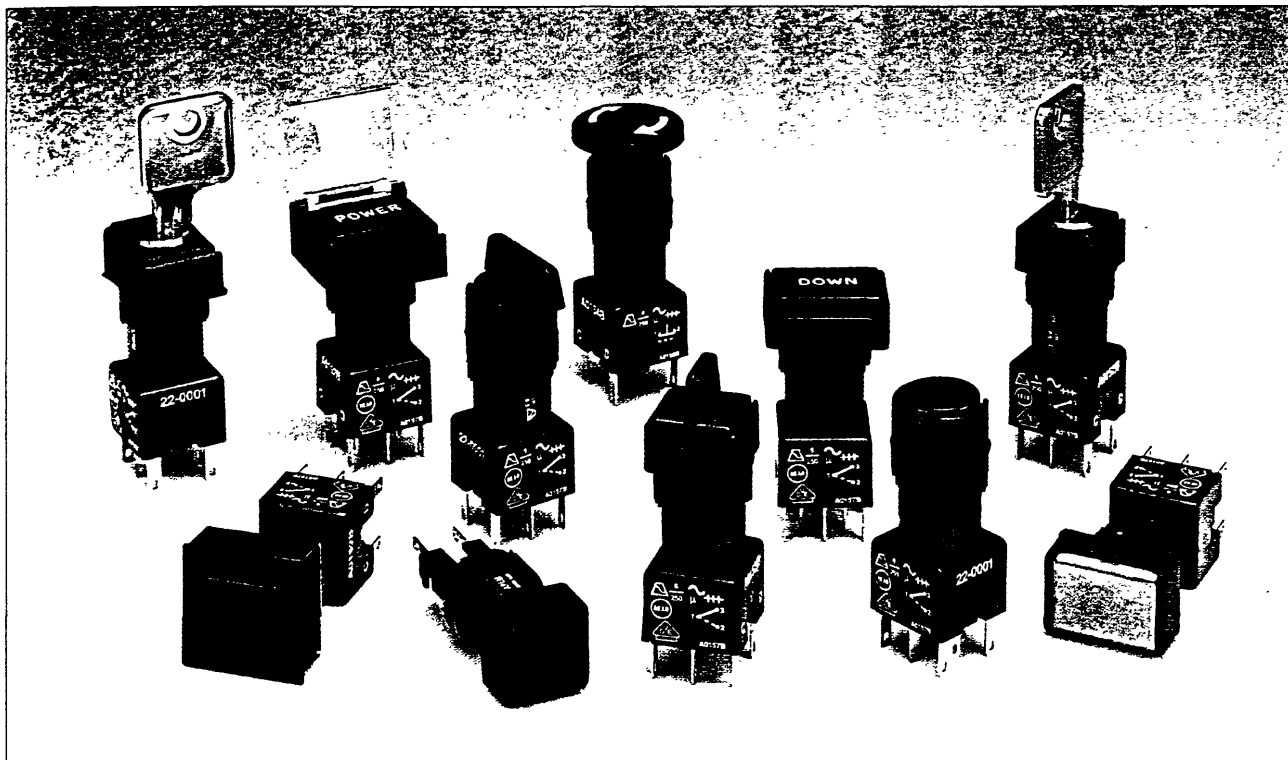
With a product range of more than 15,000 part numbers corresponding to 60 product families, APEM can immediately meet all the market requirements on the miniature, subminiature and industrial switch markets



A01 SERIES

INDUSTRIAL CONTROLS

Panel cut-out Ø16MM

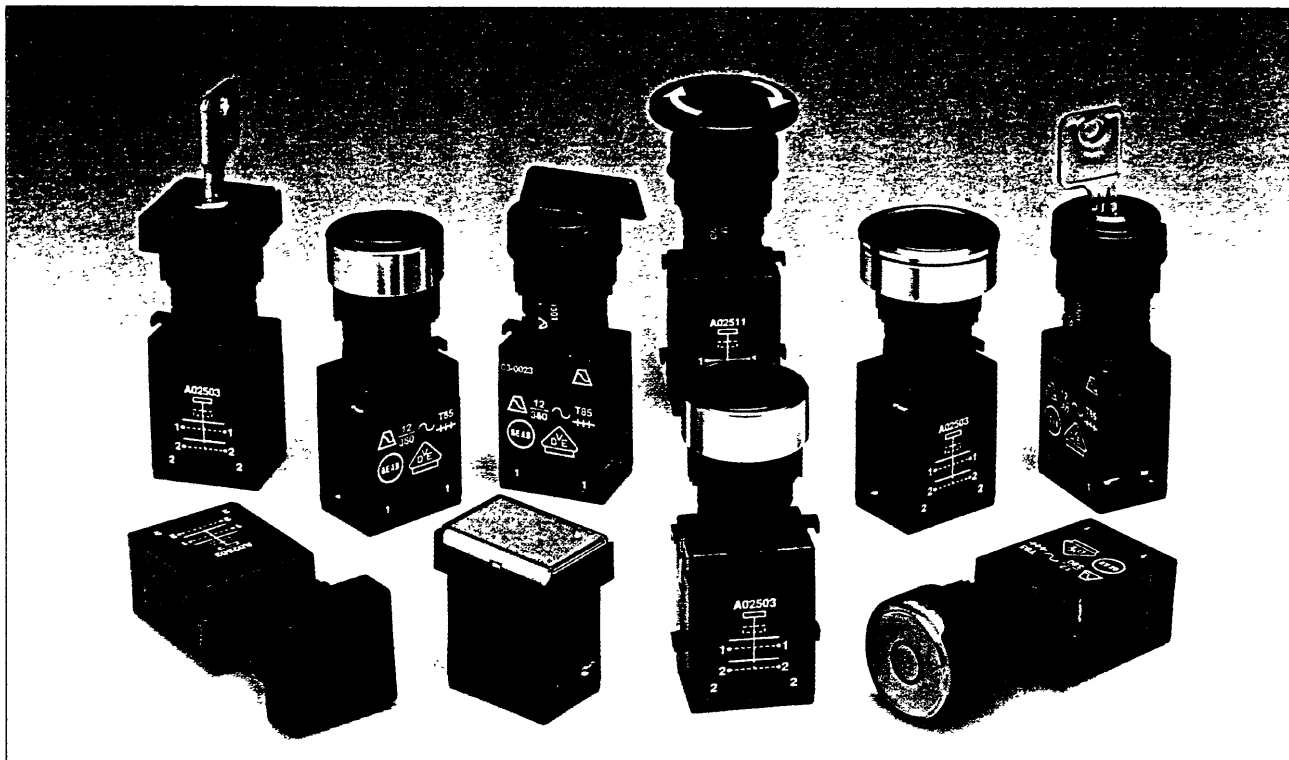


Page	Contents
6	Illuminated or non illuminated pushbutton switches
7	Indicators
8	Rotary lever switches
9	Keylock switches
10	Emergency stop and mushroom head switches
11	Accessories
12	Installation/tools

A02 SERIES

INDUSTRIAL CONTROLS

Panel cut-out Ø22MM



Page	Contents
13	Illuminated or non illuminated pushbutton switches
14	Metal bezel pushbuttons and indicators
15	Flush mounting pushbuttons and indicators
16	Indicators
17	Rotary lever switches
18	Keylock switches
19	Emergency stop and mushroom head switches
20	Installation/Accessories

A01 - A02 SERIES

INDUSTRIAL CONTROLS

Distinctive features

A01 and A02 Series are designed and manufactured in the United Kingdom

The A01 and A02 series offer ranges of:

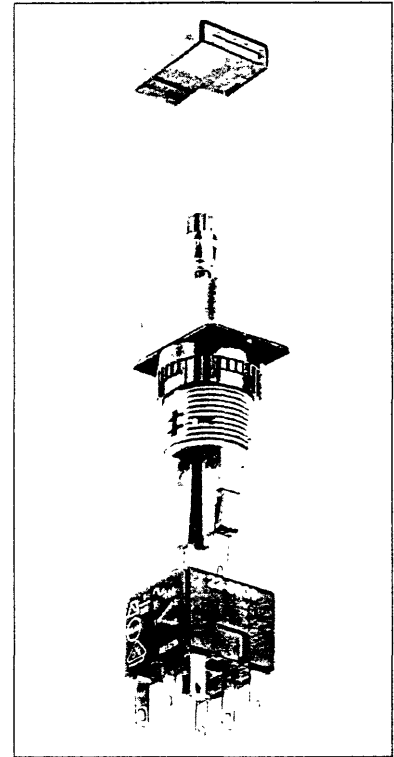
- pushbutton switches, illuminated or not
- indicators
- 2 or 3 position keylock switches
- 2 or 3 position rotary lever switches
- emergency stop switches

with rectangular, square or round operators.

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



CE - Marking



Sub-assembly

For single part number
assemblies please contact
APEM Components

A01 series

- Panel cut-out : $\varnothing$ 16mm (.630)
- 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 multi-chip LED

A02 series

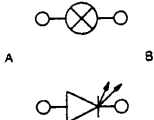
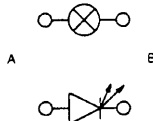
- Panel cut-out :
 - round or square : $\varnothing$ 22mm (.866)
 - rectangular : 29,5 x 21,5mm (1.160 x .846)
- 1 and 2 poles
- Screw terminals
- Contacts : silver
- Current/voltage rating :
12A 380VAC - 16A 250VAC max.
25mA 5VAC min.
- Lamp : filament, neon, multi-chip LED
or special multi-LED assembly

For back of panel safety, this series has a unique covered
cable connection arrangement. See page 20

A01 - A02 SERIES

INDUSTRIAL CONTROLS

Specifications

ELECTRICAL SPECIFICATIONS		
	A01	A02
• Function :	Momentary or maintained action	Momentary or maintained action
• Current/voltage rating :	10mA 5VAC min. 6A 250VAC max.	25mA 5VAC min. 12A 380VAC - 16A 250VAC max.
• Contact gap	1,5mm (.059)	Double break 2 x 1,5mm (.059)
• Initial contact resistance :	10mΩ max. at 1A 4VDC	10mΩ max. at 1A 4VDC
• Insulation resistance :	50 MΩ min.	50 MΩ min.
• Dielectric strength :	750V between open contacts 5KV live to accessible	2KV between open contacts 4KV live to accessible
• Electrical life :	50.000 cycles min.	50.000 cycles min.
• Insulation :	Class 2	Class 2
• Lamp life :	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
• Lamp circuit diagrams		

GENERAL SPECIFICATIONS		
	A01	A02
• Min. mechanical life :	Momentary : 1 million cycles Maintained action : 100.000 cycles Keylock and rotary : 100.000 cycles	Momentary : 1 million cycles Maintained action : 100.000 cycles Keylock and rotary : 100.000 cycles
• Operating force:	2,5N - 10N depending on switch element fitted	3N - 15N depending on switch element fitted
• Operating temperature :	-20°C to +55°C	-20°C to +85°C
• Solder heat resistance :	350°C, 5 sec.	350°C, 5 sec.
(IEC 68-2-20Tb, method 2)		
• Operating humidity :	Up to 95% RH	Up to 95% RH
• Degree of environmental protection (IEC 529)	IP 65 front of panel IP 40 back of panel	IP 65 front of panel IP 40 back of panel
• Lamps :	Midget Grooved T13/4, filament, multi-chip LED or neon	Midget Grooved T1 3/4, filament, multi-chip LED or neon Special multi-LED assembly
• Switch terminals :	Solder/quick-connect 2,8mm (.110)	M3 screws - wire 2 x 0,75 mm ² max.
• Lamp terminals :	Solder/quick-connect 2,8mm (.110)	M3 screws Flexible wire 2 x 2,5 mm ² max. Rigid wire 4 mm ² max.

For screen engraving or film legends, consult factory

A01 SERIES

ILLUMINATED OR NON-ILLUMINATED PUSHBUTTON SWITCHES

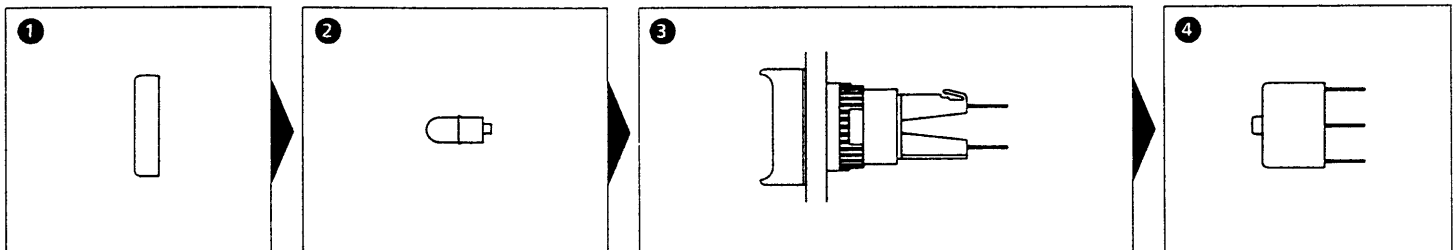
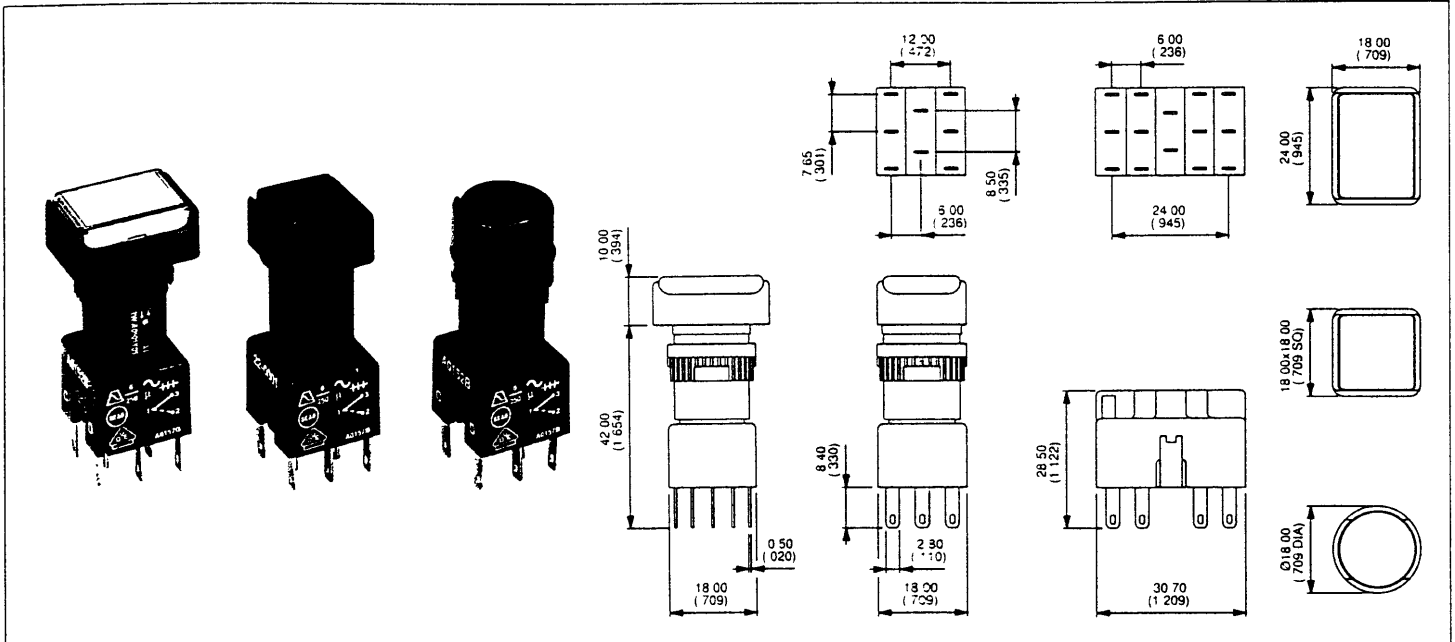
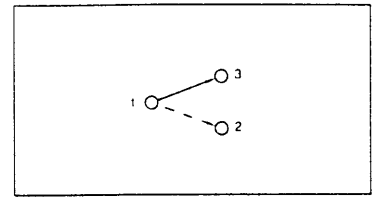
Panel cut-out Ø16 (.630)

A pushbutton assembly requires:

screen + lamp (if illuminated) + operator + switchblock

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		

UNSEALED SWITCHES (IP40): add '01' to end of OPERATOR model number

SCREEN ENGRAVING/INSERTABLE LEGENDS: contact APEM Components

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

A01 SERIES

INDICATORS

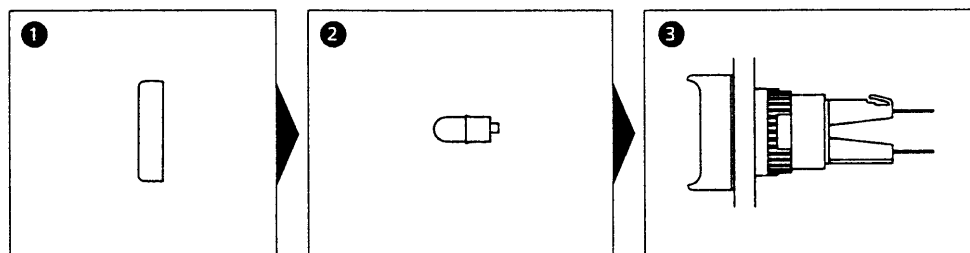
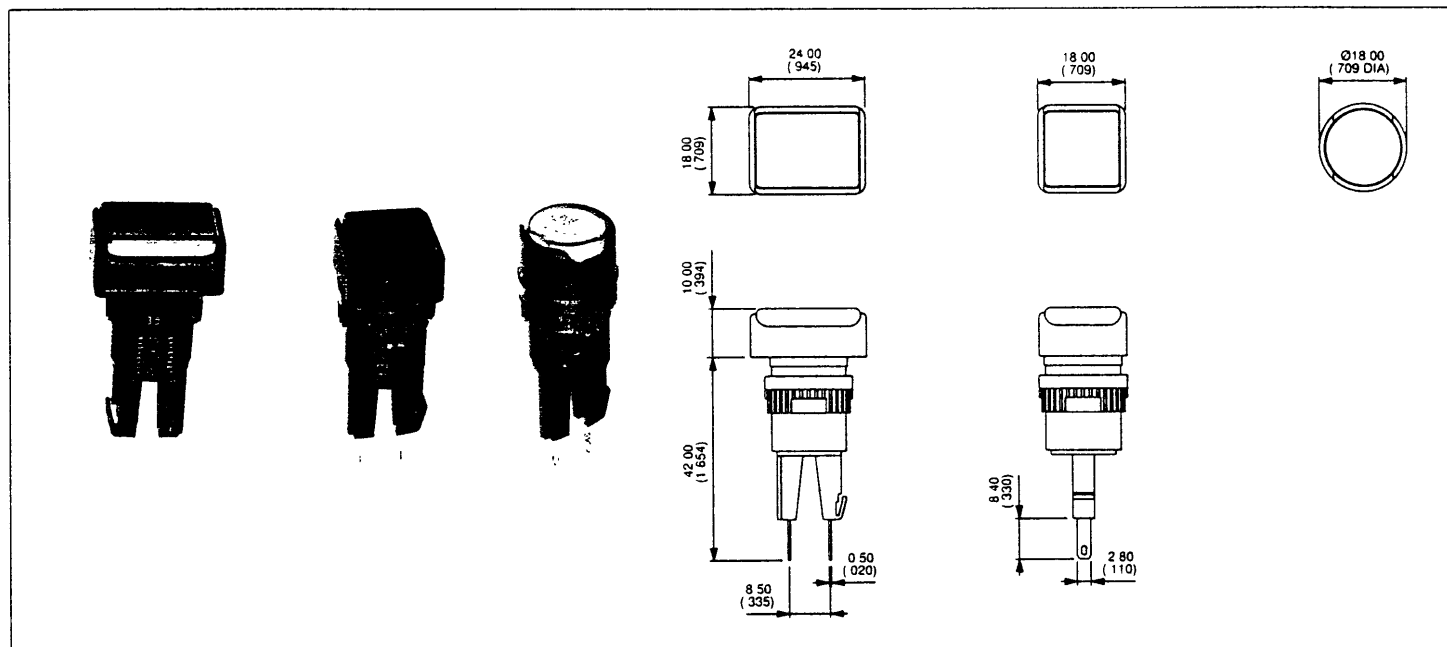
Panel cut-out Ø16 (.630)

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 Components

Bezel: □ rectangular, □ square, ○ round

A01 SERIES

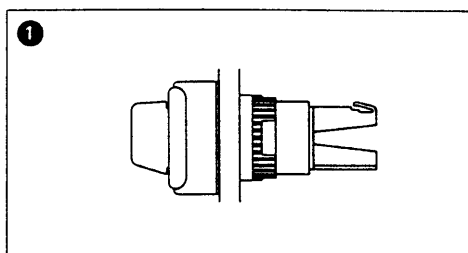
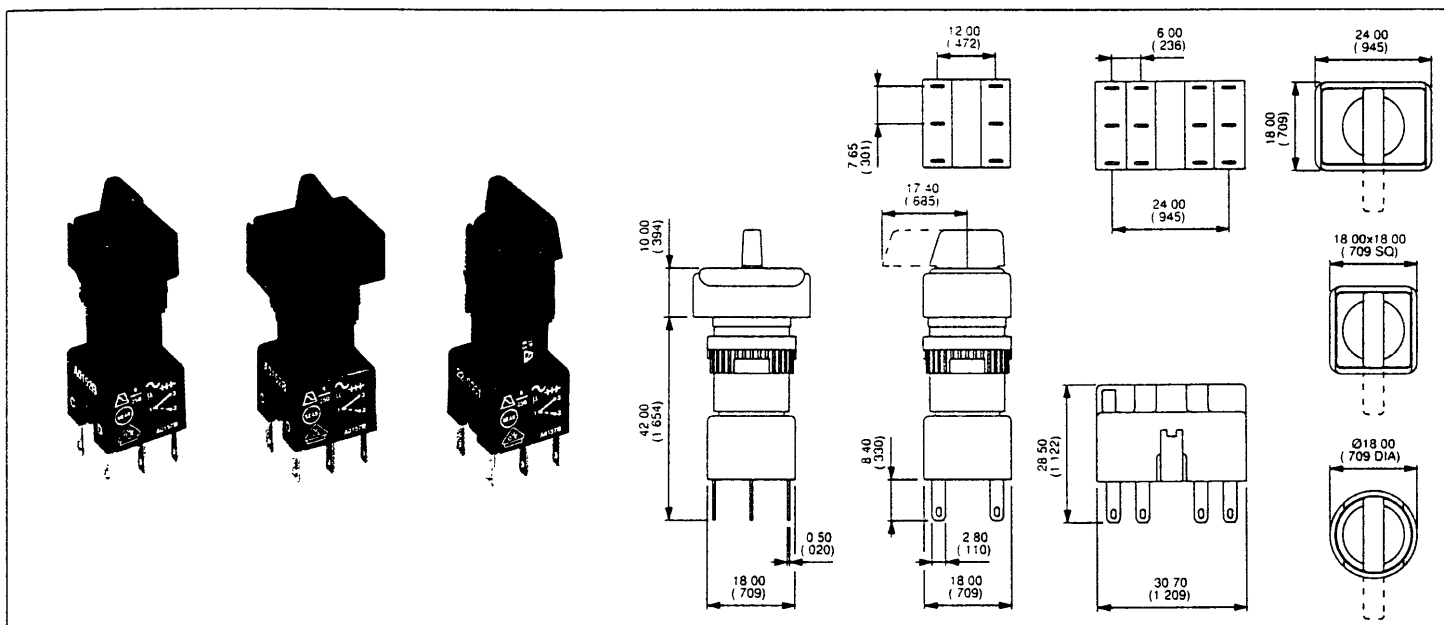
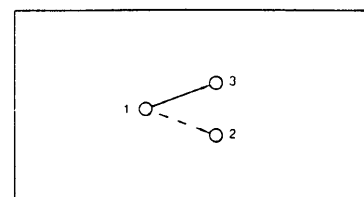
ROTARY LEVER SWITCHES

Panel cut-out Ø16 (.630)

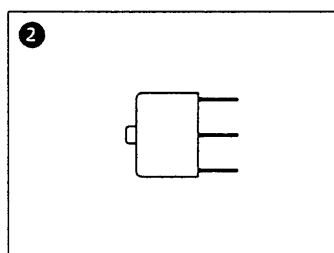
A rotary lever switch assembly requires:
operator + switchblock

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

Example: IP65 rectangular rotary switch with long lever, single pole, 2 positions maintained = A019101 and A0151B

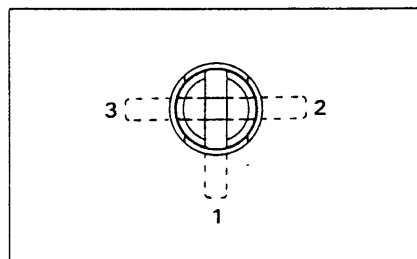


Operator



Switch block

Lever Positions



Pole	Bezel	Description	Short lever	Long lever	No of poles	Part No
1 or 2	□	2 pos. maintained	A019201	A019101	Single pole	A0151B
1 or 2	□	2 pos. momentary	A019202	A019102	Double pole	A0152B
3 or 4	□	2 pos. maintained	A019203	A019103	Three pole	A0155B
3 or 4	□	2 pos. momentary	A019204	A019104	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	A019401	A019301		
1 or 2	□	2 pos. momentary	A019402	A019302		
3 or 4	□	2 pos. maintained	A019403	A019303		
3 or 4	□	2 pos. momentary	A019404	A019304		
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	A019601	A019501		
1 or 2	○	2 pos. momentary	A019602	A019502		
3 or 4	○	2 pos. maintained	A019603	A019503		
3 or 4	○	2 pos. momentary	A019604	A019504		
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		

• Lever Rotation - 2 position switches

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

For clockwise rotation, replace:

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

at the end of the model number

UNSEALED SWITCHES (IP40): add '01' to end of OPERATOR model number

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

A01 SERIES

KEYLOCK SWITCHES

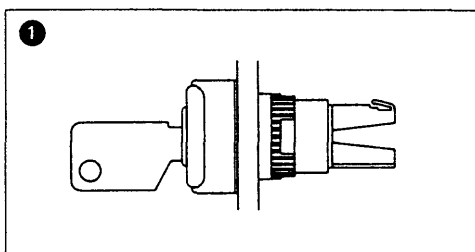
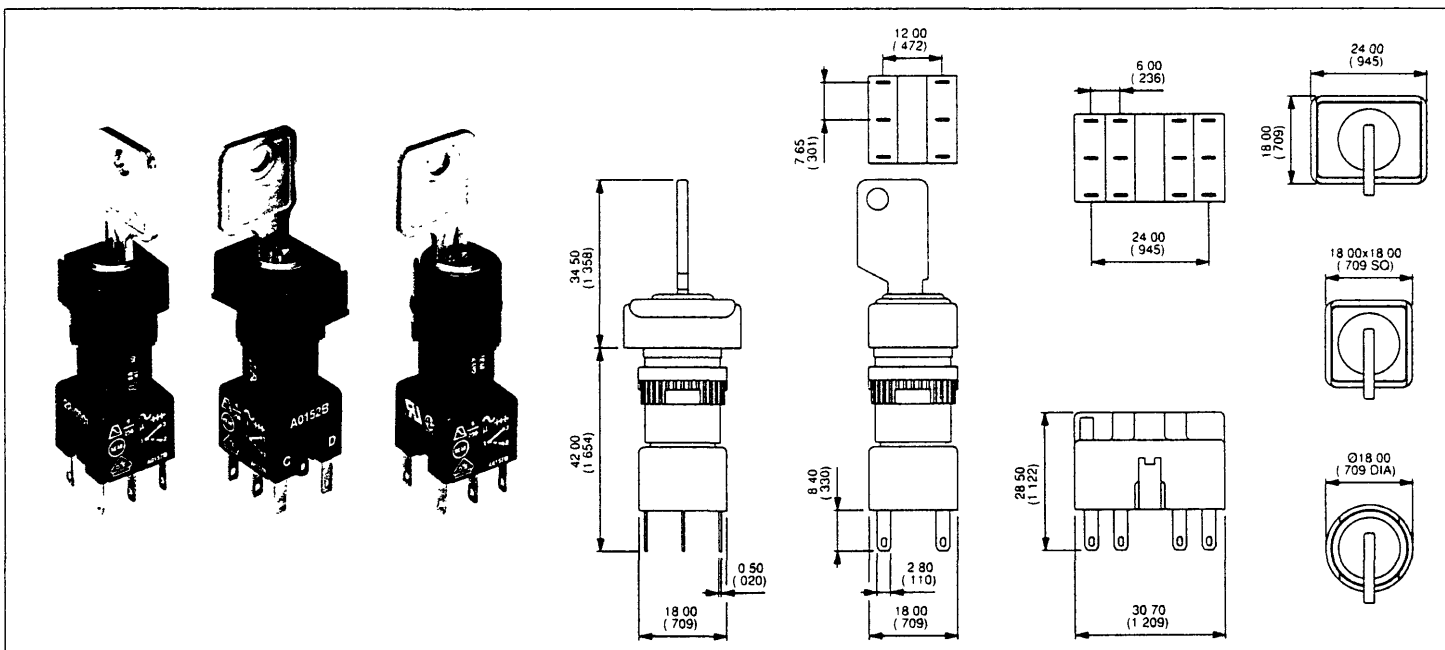
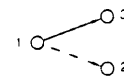
Panel cut-out Ø16 (.630)

A keylock switch assembly requires:

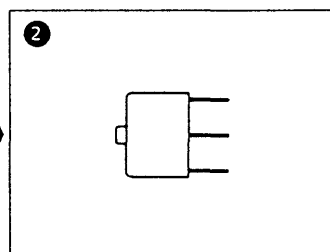
operator + switchblock

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

Example: rectangular keyswitch, single pole, 2 positions maintained
= A018101 and A0151B



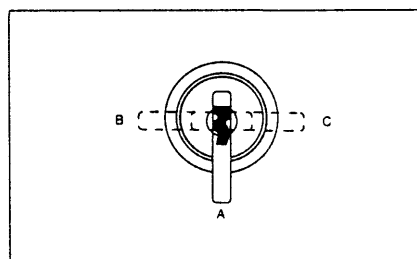
Operator



Switch block

Pole	Bezel	Description	Part No	Key removable	No of poles	Part No
1 or 2		2 pos. maintained	A018101	A-C	Single pole	A0151B
1 or 2		2 pos. momentary	A018102	A	Double pole	A0152B
3 or 4		2 pos. maintained	A018103	A-C	Three pole	A0155B
3 or 4		2 pos. momentary	A018104	A	Four pole	A0153B
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	A018201	A-C		
1 or 2		2 pos. momentary	A018202	A		
3 or 4		2 pos. maintained	A018203	A-C		
3 or 4		2 pos. momentary	A018204	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	A018301	A-C		
1 or 2		2 pos. momentary	A018302	A		
3 or 4		2 pos. maintained	A018303	A-C		
3 or 4		2 pos. momentary	A018304	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		

Key Positions



• Key Rotation - 2 position switches

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

For clockwise rotation, replace:

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

at the end of the model number

2 standard keys are supplied.

20 key barrel types available from stock

UNSEALED SWITCHES (IP40): add '01' to end of OPERATOR model number

NON-REMOVABLE KEY POSITIONS: contact APEM Components

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

A01 SERIES

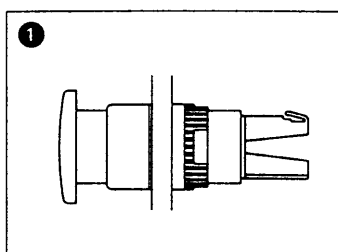
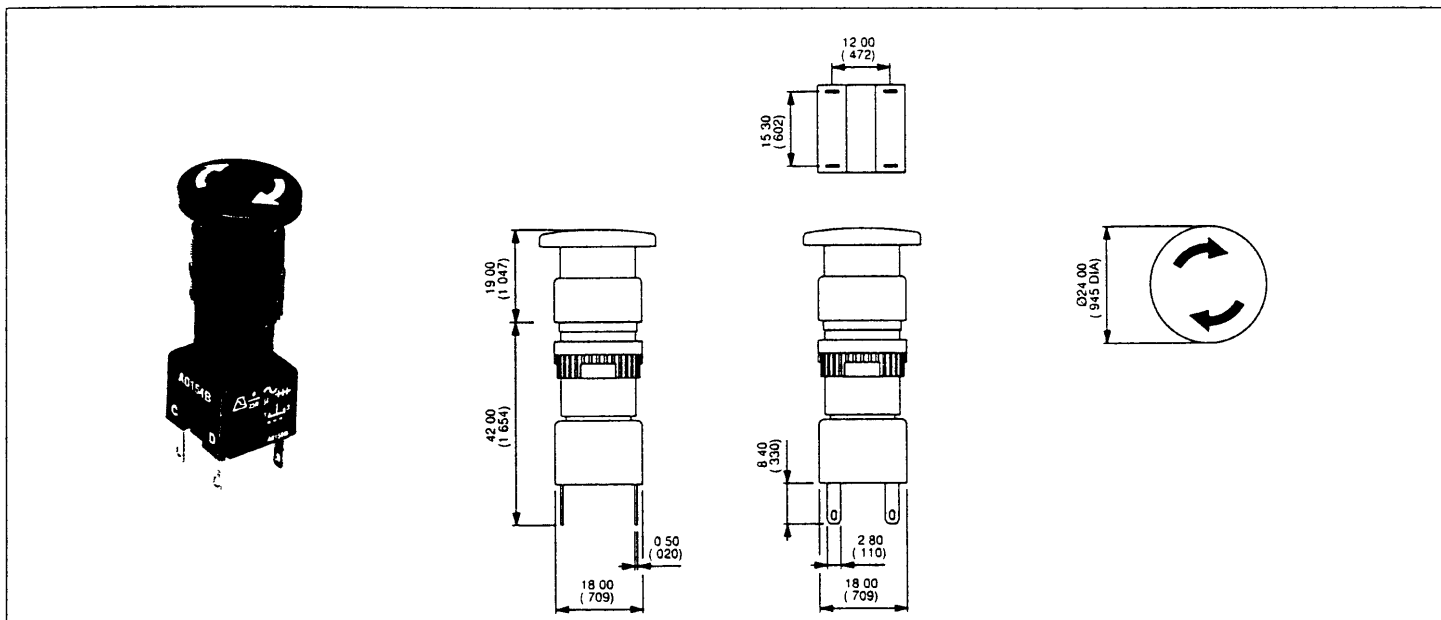
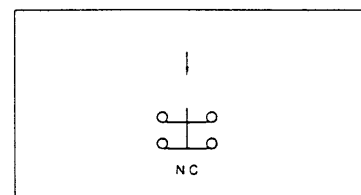
EMERGENCY STOP SWITCHES AND MUSHROOM HEAD PUSHBUTTONS

Panel cut-out Ø16 (.630)

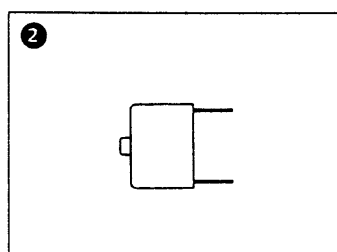
- Prominent Ø24mm (.944)dia red mushroom actuator
- Highly reliable positive break switch
- Push to shut off switch, twist to reset to ON

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

APPROVED TO UL1054/EN 60947

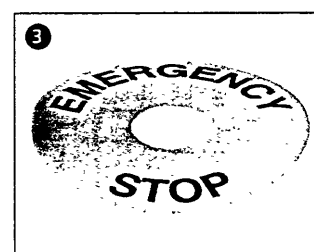


Operator



Switch block

Accessory



60Ømm Self Adhesive Label

Bezel	Description	Part No	No of poles	Part No
○	Emergency stop	A01ES	Single pole	A0150B
			Double pole	A0154B

Description	Part No
Yellow label with text	A01YL1
Yellow label	A01YL2

MUSHROOM HEAD PUSHBUTTONS

Operator			Switch block	
Bezel	Description	Part No	No of poles	Part No
○	Red momentary operator	A01MMB	Single pole	A0151B
○	Black momentary operator	A01MMA	Double pole	A0152B
○	Red maintained operator	A01MXB	Three pole	A0155B
○	Black maintained operator	A01MXA	Four pole	A0153B

For other colour variations please contact APEM Components

Bezel: ○ round.

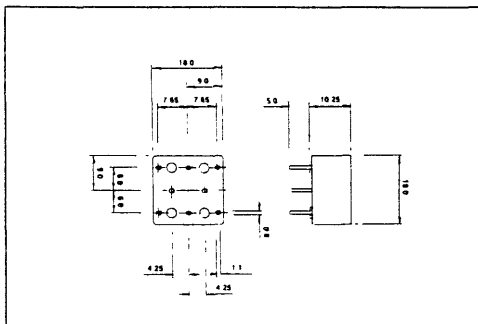
Momentary and maintained function mushroom head pushbutton acutators.

Momentary function version is unmarked (Mushroom head pushbuttons share the same dimensions as emergency stop switches).

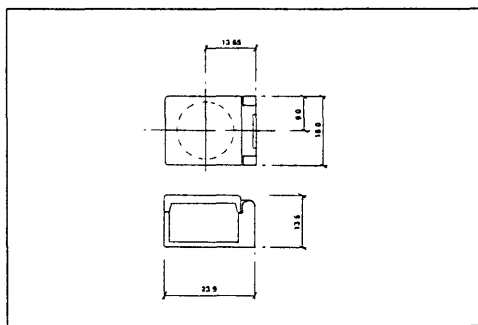
Mushroom head pushbutton assembly requires:
operator + switchblock

UNSEALED SWITCHES (IP40): add '01' to end of OPERATOR model number.

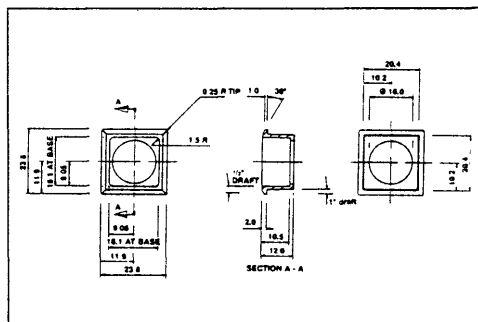
ACCESSORIES



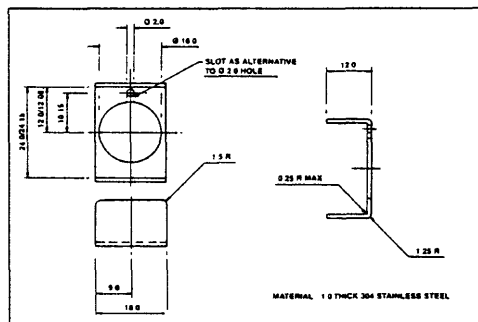
Single pole, non illuminated	A01PC1
Double pole, non illuminated	A01PC2
Single pole, illuminated	A01PC3
Double pole, illuminated	A01PC4
Indicator	A01PC5



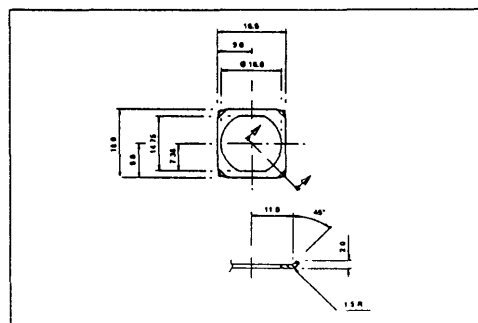
Rectangular bezel	A01FG1
Round/square bezel	A01FG2



Rectangular bezel	A01FM1
Round/square bezel	A01FM
Rectangular washer	A01FM1 washer
Round/square washer	A01FM washer



Rectangular bezel	A01MG1
Round/square bezel	A01MG

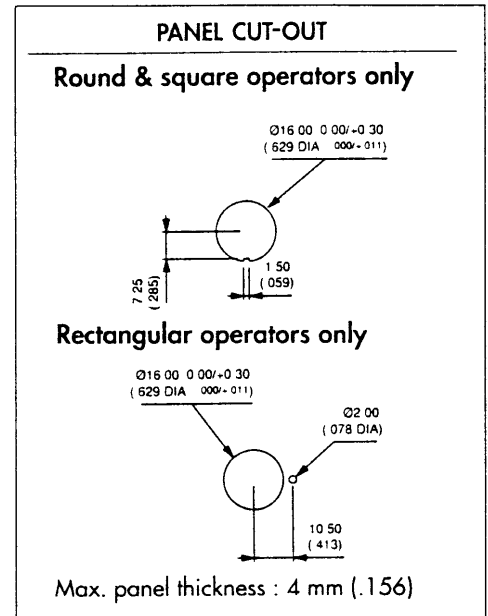
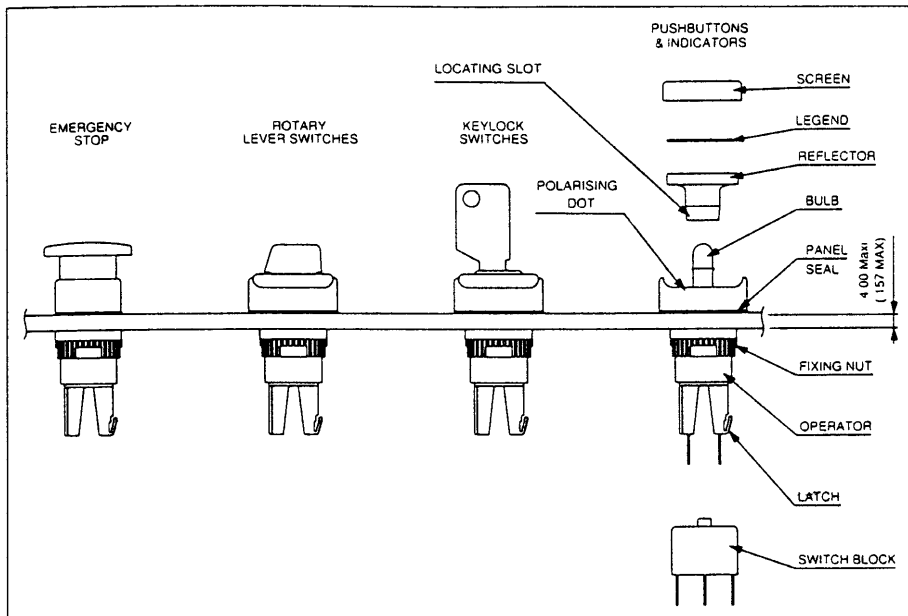


Lock washer A01LW

A01 SERIES

INDUSTRIAL CONTROLS

Installation – tools



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

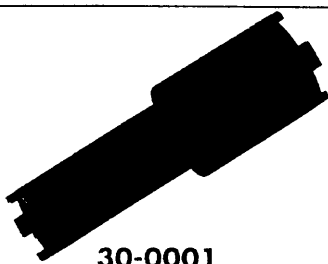
Remove reflector/screen assembly by inserting tool No. 30-0006 between the bezel finger guard and the screen to engage the slot and pulling. Use the bulb extractor to remove the bulb.

SWITCH BLOCK

To assemble switch block to front operator, firstly, TAKE CARE TO LINE UP SWITCH BLOCK WITH FRONT OPERATOR. Once in position slide on to front operator. N.B. 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



SCREEN REMOVER



A02 SERIES

ILLUMINATED OR NON-ILLUMINATED PUSHBUTTON SWITCHES

Panel cut-out Ø22 or 29.5 x 21.5

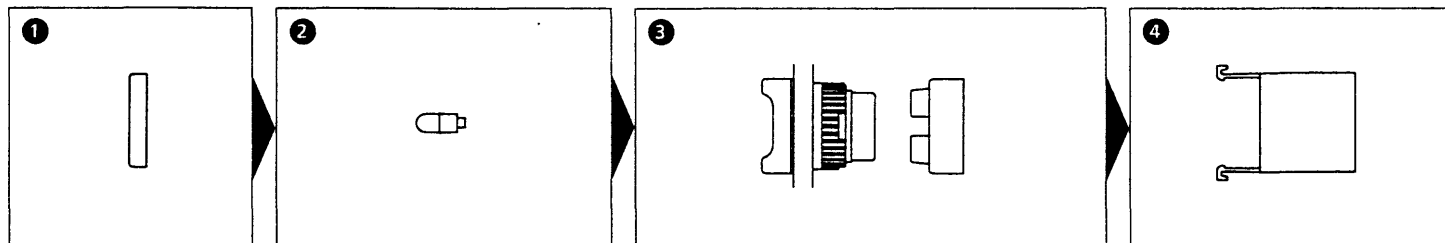
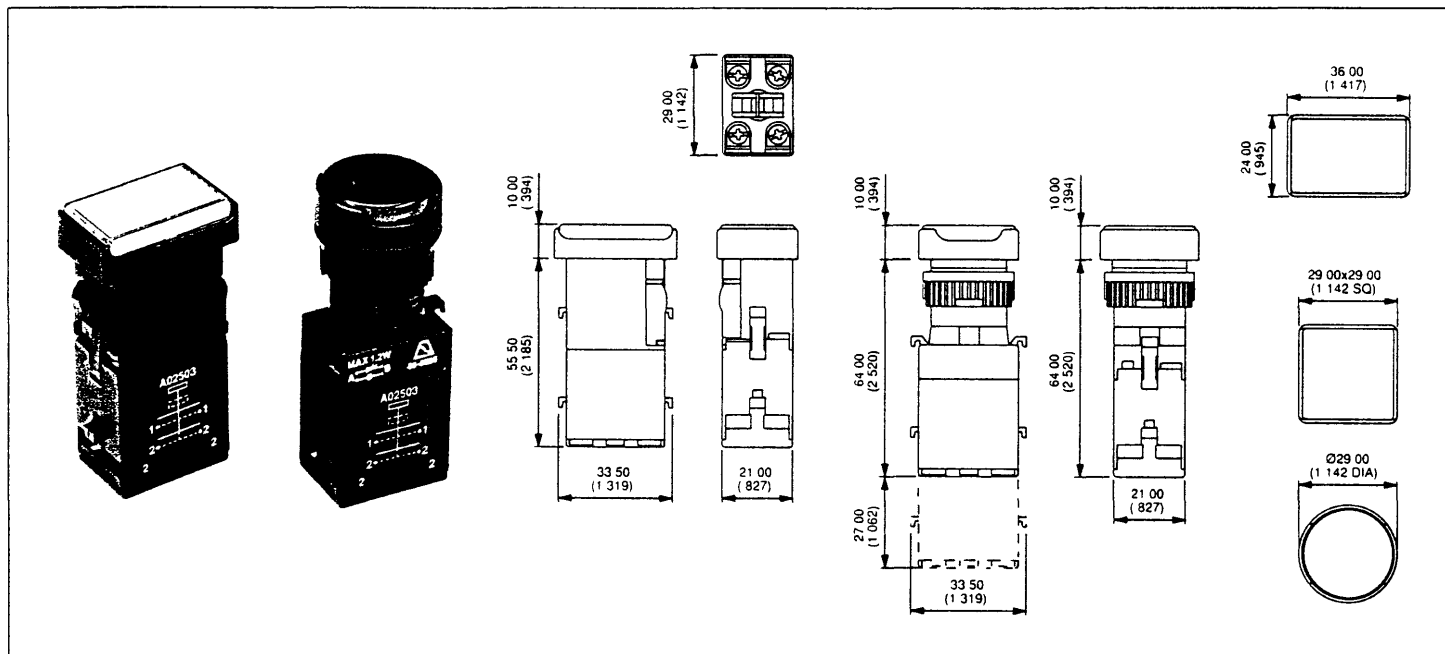
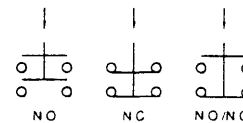
A pushbutton assembly requires:

screen + lamp (if illuminated) + operator + one or two switchblocks

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

Example: IP65 rectangular maintained pushbutton, switch blocks with 2 N.O. contacts, red screen and 12V red LED assembly

= A0261B, A0242J1, A0201X and A02503.



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	14V	A0141B		illum, maintained	Lamp/LED	A0201X	1 N.C.	A02502
	amber	A0261C	Filament	28V	A0141C		illum, momentary	LED assy	A0202Y	2 N.O.	A02503
	yellow	A0261D	Filament	36V	A0141D		illum, maintained	LED assy	A0202X	2 N.C.	A02504
	green	A0261E	Filament	48V	A0141E		Non-illum, maintained		A0203Y	1 N.O./1 N.C.	A02505
	blue	A0261F	Filament	60V	A0141F		Non-illum, momentary		A0203X		
	clear	A0261G	Neon	110V	A0143G		illum, momentary	Lamp/LED	A0204Y		
	white	A0261J	Neon	220V	A0143H		illum, maintained	Lamp/LED	A0204X		
	black	A0262A	LED lamp	model numbers: see P6&7			illum, momentary	LED assy	A0205Y		
	red	A0262B					illum, maintained	LED assy	A0205X		
	amber	A0262C	LED assy	6V	A0242H*		Non-illum, momentary		A0206Y		
	yellow	A0262D	LED assy	12V	A0242J*		Non-illum, maintained		A0206X		
	green	A0262E	LED assy	24V	A0242K*		illum, momentary	Lamp/LED	A0207Y	1 N.O.	A02506
	blue	A0262F	LED assy	6V	A0243H*		illum, maintained	Lamp/LED	A0207X	1 N.C.	A02507
	clear	A0262G	LED assy	12V	A0243J*		illum, momentary	LED assy	A0208Y	2 N.O.	A02508
	white	A0262J	LED assy	24V	A0243K*		illum, maintained	LED assy	A0208X	2 N.C.	A02509
	black	A0263A	LED assy	6V	A0244H*		Non-illum, momentary		A0209Y	1 N.O./1 N.C.	A02510
	red	A0263B	LED assy	12V	A0244J*		Non-illum, maintained		A0209X		
	amber	A0263C	LED assy	24V	A0244K*						
	yellow	A0263D	Replace * with colour code for LED assemblies:								
	green	A0263E									
	blue	A0263F									
	clear	A0263G									
	white	A0263J									

WHITE OR BLUE LED ASSEMBLY:
contact APEM Components

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 Components

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

A02 SERIES

METAL BEZEL PUSHBUTTON SWITCHES AND INDICATORS

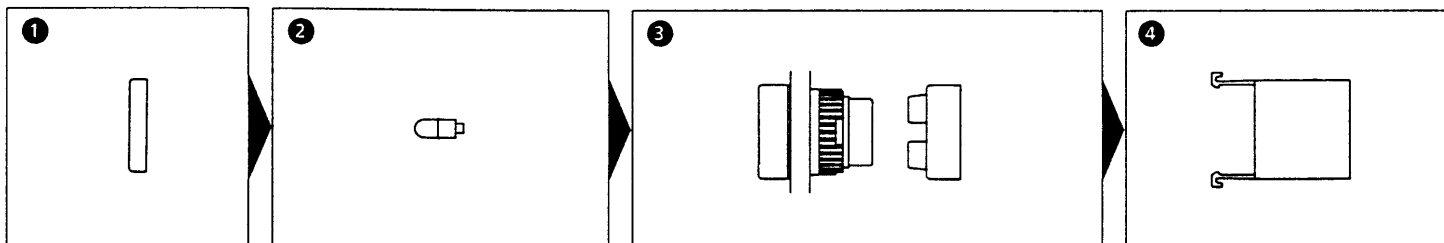
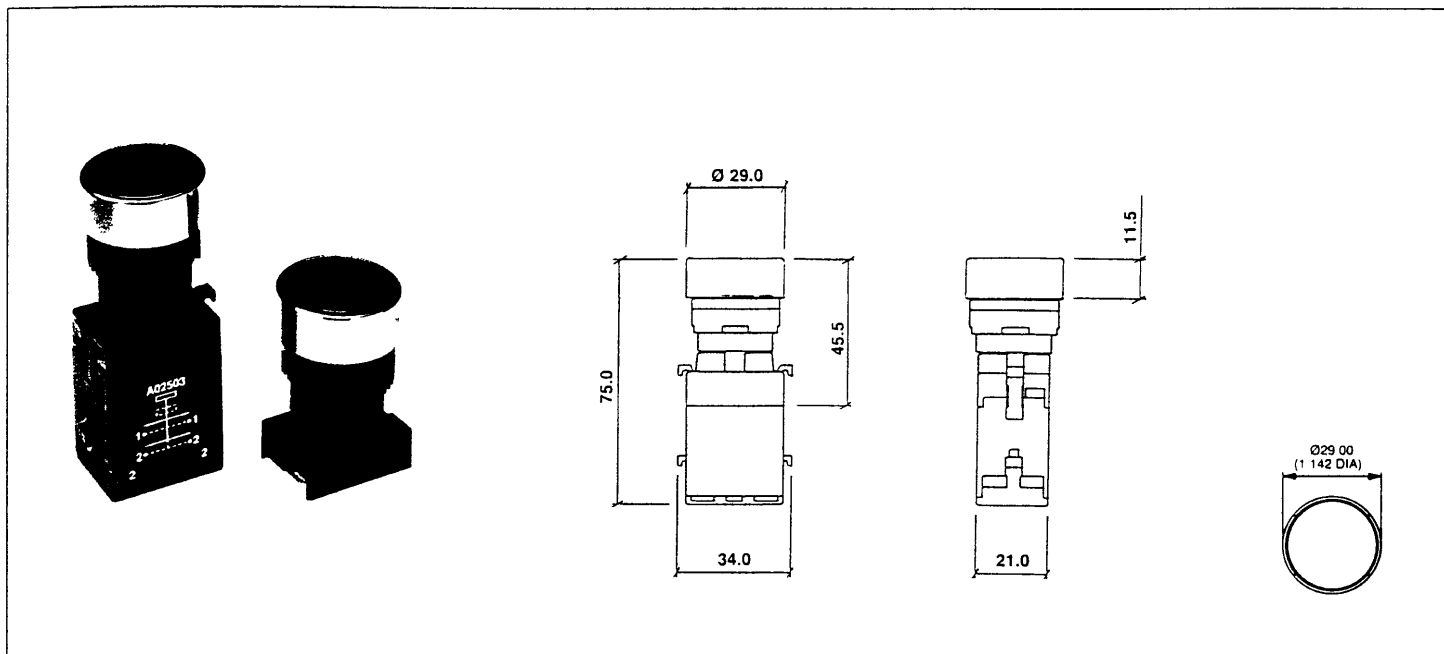
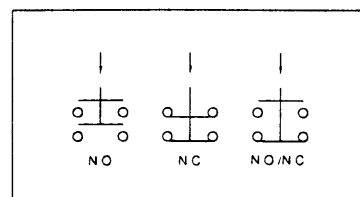
Panel cut-out Ø22

A pushbutton assembly requires:

screen + lamp (if illuminated) + operator + one or two switchblocks

An indicator assembly requires : screen + lamp + operator

Example: IP65 metal bezel maintained pushbutton, switch block with 2 N.O. contacts, red screen and 12V red LED assembly = A0263B, A0244J1, A0211X and A02503.



Screen			Lamp			Operator			Switch block		
Bezel	Colour	Part No	Lamp	Voltage	Part No	Bezel	Description	Lamp type	Part No	Contacts	Part No
○	black	A0263A	Filament	6.3V	A0141A	○	illum, momentary	Lamp/LED	A0210Y	1 N.O.	A02501
○	red	A0263B	Filament	14V	A0141B	○	illum, maintained	Lamp/LED	A0210X	1 N.C.	A02502
○	amber	A0263C	Filament	28V	A0141C	○	illum, momentary	LED assy	A0211Y	2 N.O.	A02503
○	yellow	A0263D	Filament	36V	A0141D	○	illum, maintained	LED assy	A0211X	2 N.C.	A02504
○	green	A0263E	Filament	48V	A0141E	○	Non-illum, momentary		A0212Y	1 N.O./1 N.C.	A02505
○	blue	A0263F	Filament	60V	A0141F	○	Non-illum, maintained		A0212X		
○	clear	A0263G	Neon	110V	A0143G	○	illum, indicator	Lamp/LED	A0277		
○	white	A0263J	Neon	220V	A0143H	○	illum, indicator	LED assy	A0278		
			LED lamp	model numbers: see Pages 6&7		Std bezel material : nickel plated brass					
			LED assy ○	6V	A0244H*						
			LED assy ○	12V	A0244J*						
			LED assy ○	24V	A0244K*						
			NB Replace * with colour code for LED assemblies:								
			1: red								
			2: green								
			3: amber								

WHITE OR BLUE LED ASSEMBLY:
contact APEM Components

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 Components

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

A02 SERIES

FLUSH MOUNTING PUSHBUTTON SWITCHES AND INDICATORS

Panel cut-out Ø30

A pushbutton assembly requires:

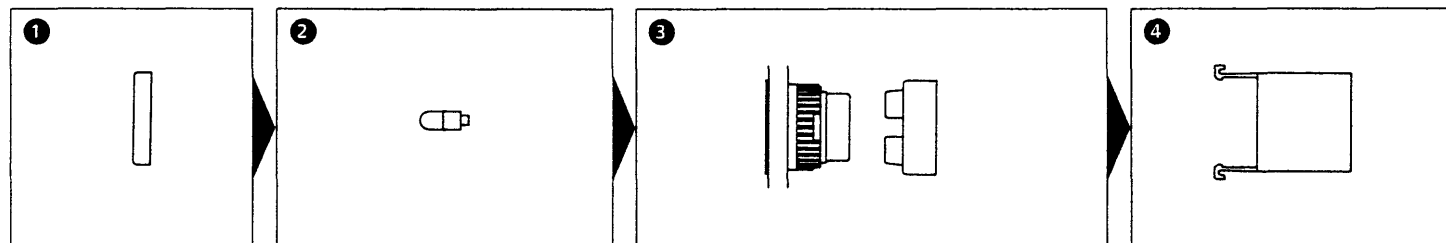
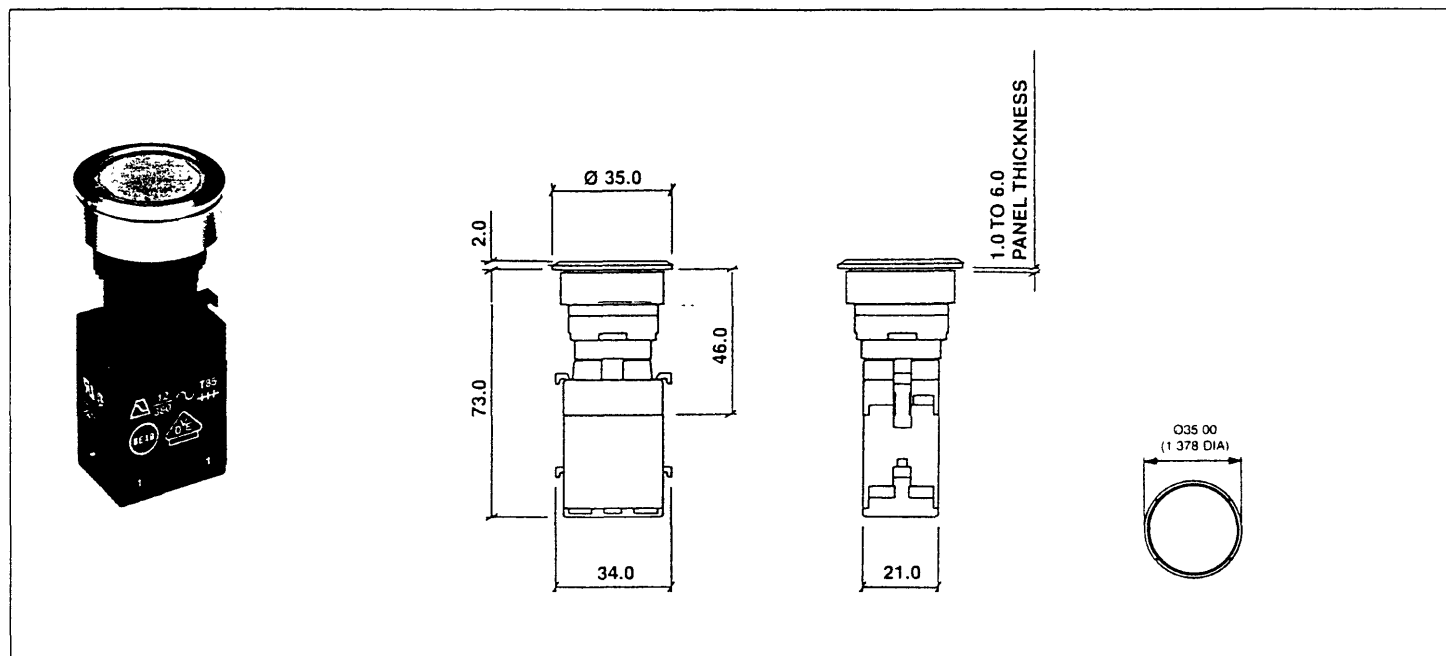
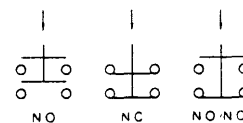
screen + lamp (if illuminated) + operator + one or two switchblocks

An indicator assembly requires : screen + lamp + operator

Example: IP65 flush mounting maintained pushbutton, switch block with 2 N.O.

contacts, red screen and 12V red LED assembly

= A0263B, A0244J1, 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 lamp model numbers see Pages 6&7		
LED assy	6V	A0244H*
LED assy	12V	A0244J*
LED assy	24V	A0244K*
NB Replace * with colour code for LED assemblies:		
	1: red	
	2: green	
	3: amber	

WHITE OR BLUE LED ASSEMBLY:

contact APEM Components

Operator

Bezel	Description	Lamp type	Part No
○	Illum, momentary	Lamp/LED	A0214Y
○	Illum, maintained	Lamp/LED	A0214X
○	Illum, momentary	LED assy	A0213Y
○	Illum, maintained	LED assy	A0213X
○	Non-illum, momentary		A0215Y
○	Non-illum, maintained		A0215X
○	Illum, indicator	Lamp/LED	A02791
○	Illum, indicator	LED assy	A02792

Std bezel material : silver anodised aluminium.

For optional black anodised aluminium, add "G" 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

UNSEALED SWITCHES (IP40): add '01' to end of OPERATOR model number

SCREEN ENGRAVING/INSERTABLE LEGENDS: contact APEM Components

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

A02 SERIES

INDICATORS

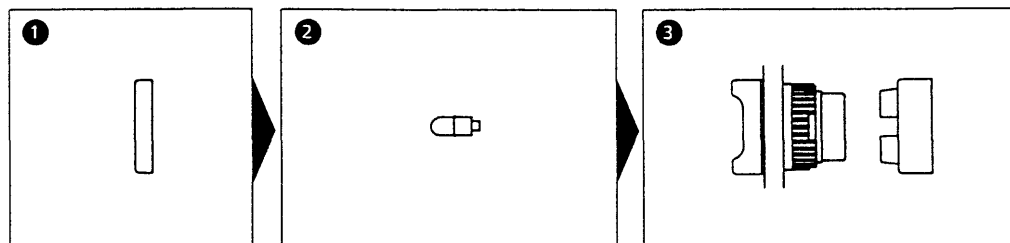
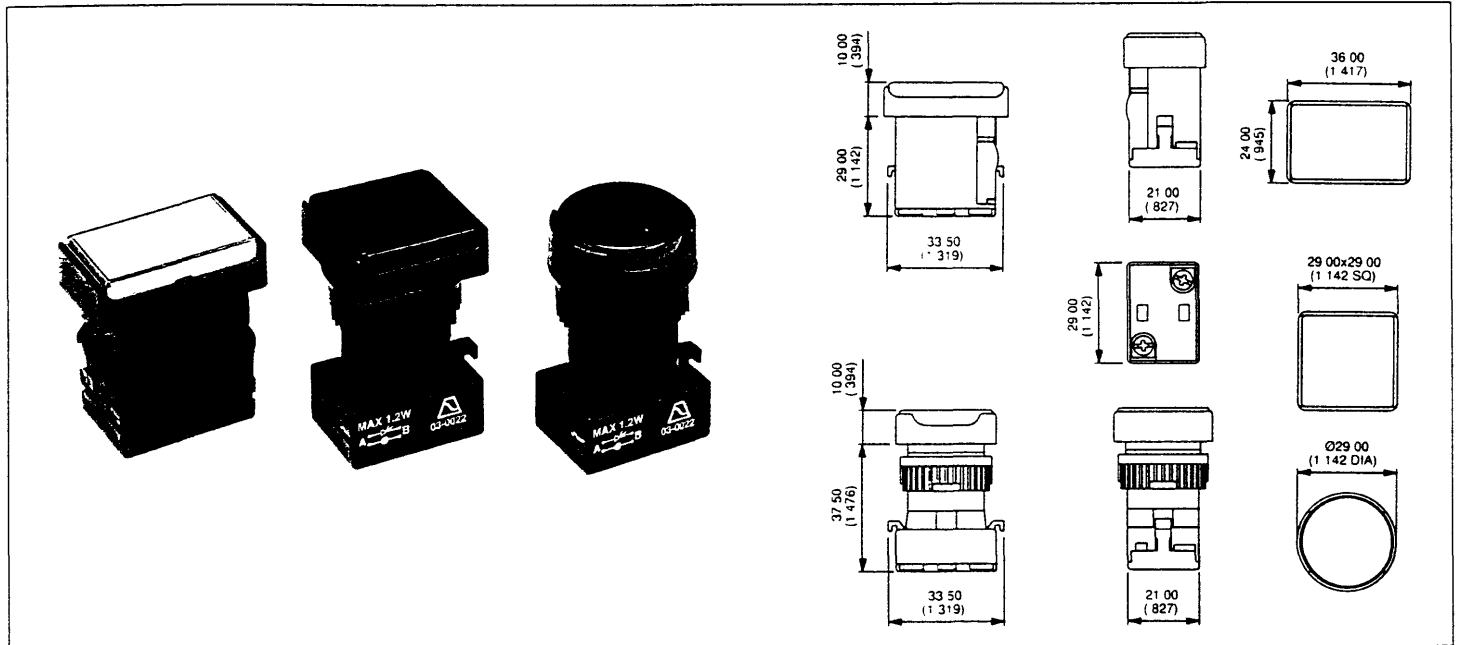
Panel cut-out Ø22 or 29.5 x 21.5

An indicator assembly requires:

screen + lamp, LED or LED assembly + operator

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

Example: rectangular indicator with red screen and 12V red LED assembly = A0261B, A0242J1 and A0272



Screen

Lamp

Operator

Bezel	Colour	Part No	Lamp	Voltage	Part No	Bezel	Description	Lamp type	Part No
□	black	A0261A	Filament	6.3V	A0141A	□	Indicator	Lamp/LED	A0271
□	red	A0261B	Filament	14V	A0141B	□	Indicator	LED assy	A0272
□	amber	A0261C	Filament	28V	A0141C	□	Indicator	Lamp/LED	A0273
□	yellow	A0261D	Filament	36V	A0141D	□	Indicator	LED assy	A0274
□	green	A0261E	Filament	48V	A0141E	○	Indicator	Lamp/LED	A0275
□	blue	A0261F	Filament	60V	A0141F	○	Indicator	LED assy	A0276
□	clear	A0261G	Neon	110V	A0143G				
□	white	A0261J	Neon	220V	A0143H				
□	black	A0262A	LED lamp	model numbers: see P6&7					
□	red	A0262B	LED assy	6V	A0242H*				
□	amber	A0262C	LED assy	12V	A0242J*				
□	yellow	A0262D	LED assy	24V	A0242K*				
□	green	A0262E	LED assy	6V	A0243H*				
□	blue	A0262F	LED assy	12V	A0243J*				
□	clear	A0262G	LED assy	24V	A0243K*				
□	white	A0262J	LED assy	6V	A0244H*				
○	black	A0263A	LED assy	12V	A0244J*				
○	red	A0263B	LED assy	24V	A0244K*				
○	amber	A0263C	LED assy	Replace * with colour code for LED assemblies:					
○	yellow	A0263D							
○	green	A0263E							
○	blue	A0263F							
○	clear	A0263G							
○	white	A0263J							

WHITE OR BLUE LED ASSEMBLY:
contact APEM Components

UNSEALED INDICATORS (IP40): add '01' to end of OPERATOR model number

SCREEN ENGRAVING/INSERTABLE LEGENDS: contact APEM Components

Bezel: □ rectangular, □ square, ○ round

A02 SERIES

ROTARY SWITCHES

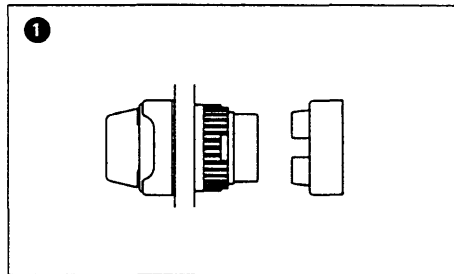
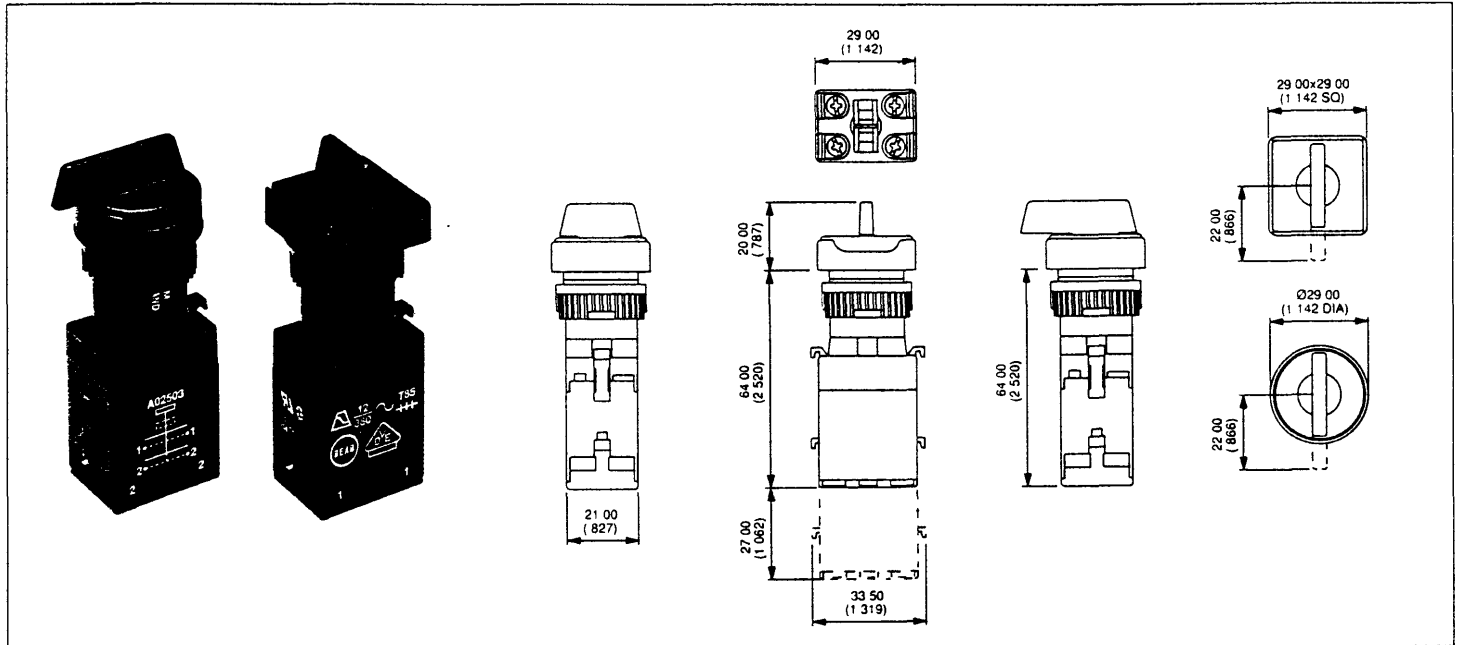
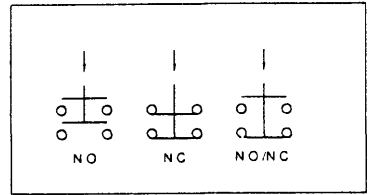
Panel cut-out Ø22 (.866)

A rotary lever assembly requires:

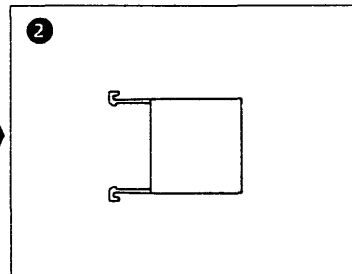
operator + one or two switchblocks

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

Example: IP65 square 2 position maintained rotary switch with long lever, switch block with 2 N.O. contacts. = A029101 and A02503.

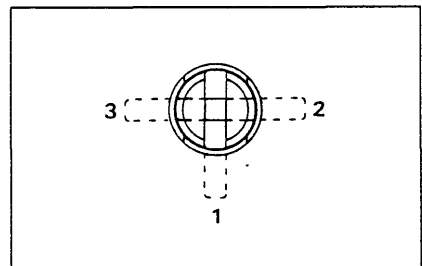


Operator



Switch block

Lever positions



Bezel	Description	Short lever	Long lever	Contacts	Part No
☐	2 pos. maintained	A029201	A029101	1 N.O.	A02501
☐	2 pos. momentary	A029202	A029102	1 N.C.	A02502
☐	3 pos. maintained	A029203	A029103	2 N.O.	A02503
☐	3 pos. momentary	A029204	A029104	2 N.C.	A02504
☐	3 pos. mainL, momR	A029205	A029105	1 N.O./1 N.C.	A02505
☐	3 pos. momL, mainR	A029206	A029106		
☐	2 pos. maintained	A029401	A029301		
☐	2 pos. momentary	A029402	A029302		
☐	3 pos. maintained	A029403	A029303		
☐	3 pos. momentary	A029404	A029304		
☐	3 pos. mainL, momR	A029405	A029305		
☐	3 pos. momL, mainR	A029406	A029306		

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

• Lever Rotation - 2 position switches

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

For clockwise rotation, replace:

01 with 07
02 with 08

at the end of the model number.

UNSEALED SWITCHES (IP40): add '01' to end of OPERATOR model number

Bezel: ☐ square, ☐ round,

A02 SERIES

KEYLOCK SWITCHES

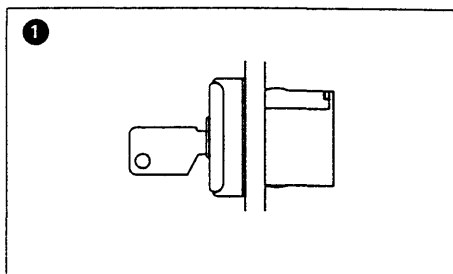
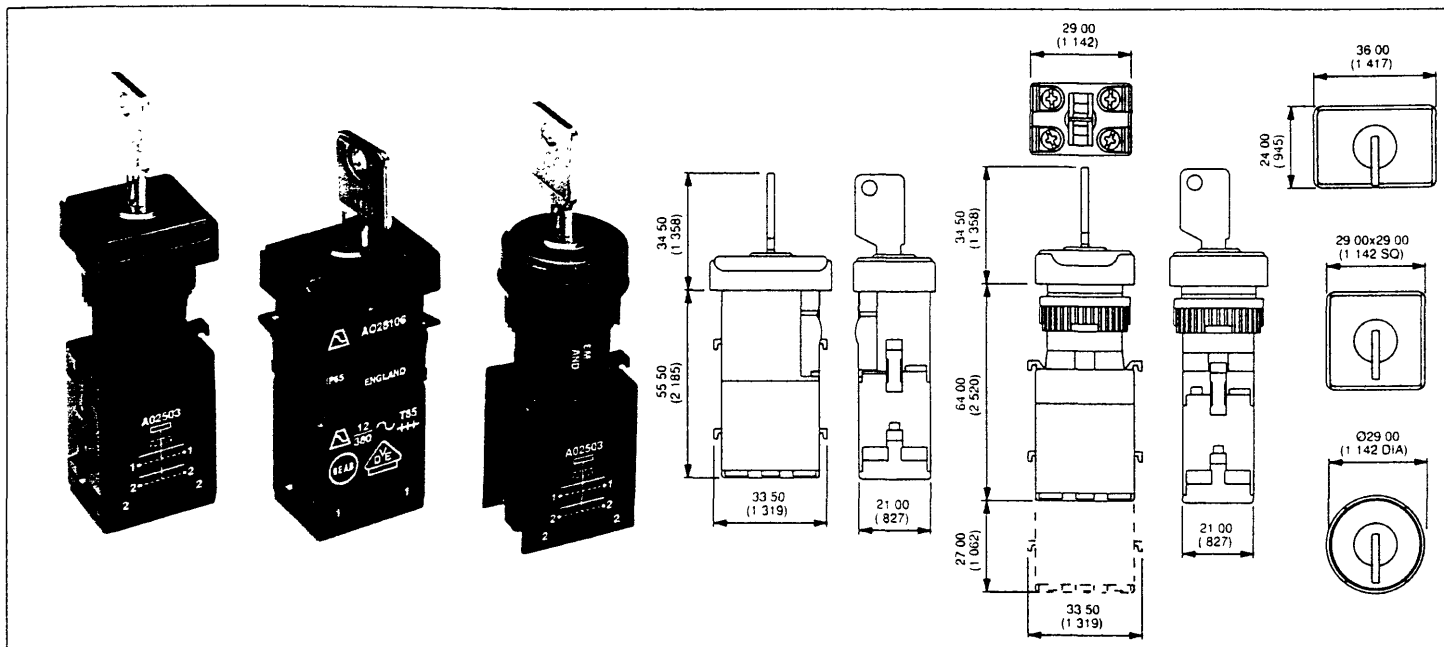
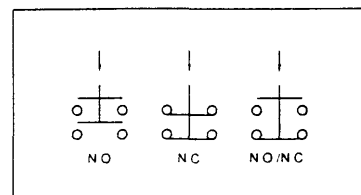
Panel cut-out Ø22 or 29.5 X 21.5

A keyswitch assembly requires:

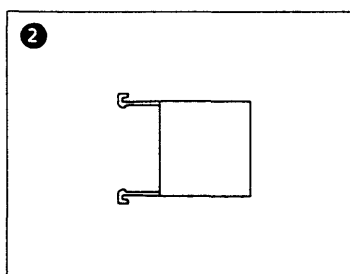
operator + one or two switchblocks

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

Example: IP65 square 2 position maintained keyswitch, switch block with 2 N.O. contacts = A028201 and A02503

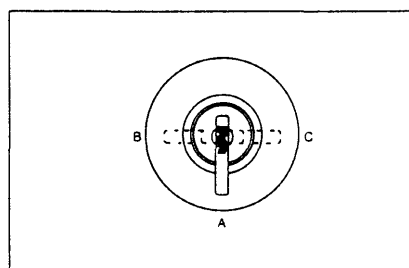


Operator



Switch block

Key positions



Bezel	Description	Part No	Key removable in positions
☐	2 pos. maintained	A028101	A-C
☐	2 pos. momentary	A028102	A
☐	3 pos. maintained	A028105	A-B-C
☐	3 pos. momentary	A028106	A
☐	3 pos. mainL, momR	A028107	A-B
☐	3 pos. momL, mainR	A028108	A-C
☐	2 pos. maintained	A028201	A-C
☐	2 pos. momentary	A028202	A
☐	3 pos. maintained	A028205	A-B-C
☐	3 pos. momentary	A028206	A
☐	3 pos. mainL, momR	A028207	A-B
☐	3 pos. momL, mainR	A028208	A-C
☐	2 pos. maintained	A028301	A-C
☐	2 pos. momentary	A028302	A
☐	3 pos. maintained	A028305	A-B-C
☐	3 pos. momentary	A028306	A
☐	3 pos. mainL, momR	A028307	A-B
☐	3 pos. momL, mainR	A028308	A-C

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

UNSEALED SWITCHES (IP40): add '01' to end of OPERATOR model number.

NON-REMOVABLE KEY POSITIONS: contact APEM Components

Bezel: ☐ rectangular, ☐ square, ☐ round,

Key Rotation - 2 position switches

The model numbers shown are for switches with anticlockwise lever rotation. For clockwise rotation, replace:

01	with	20
02	with	19

at the end of the model number

2 standard keys are supplied.

20 key barrel types available from stock.

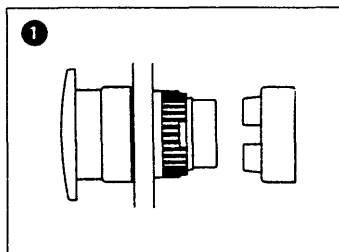
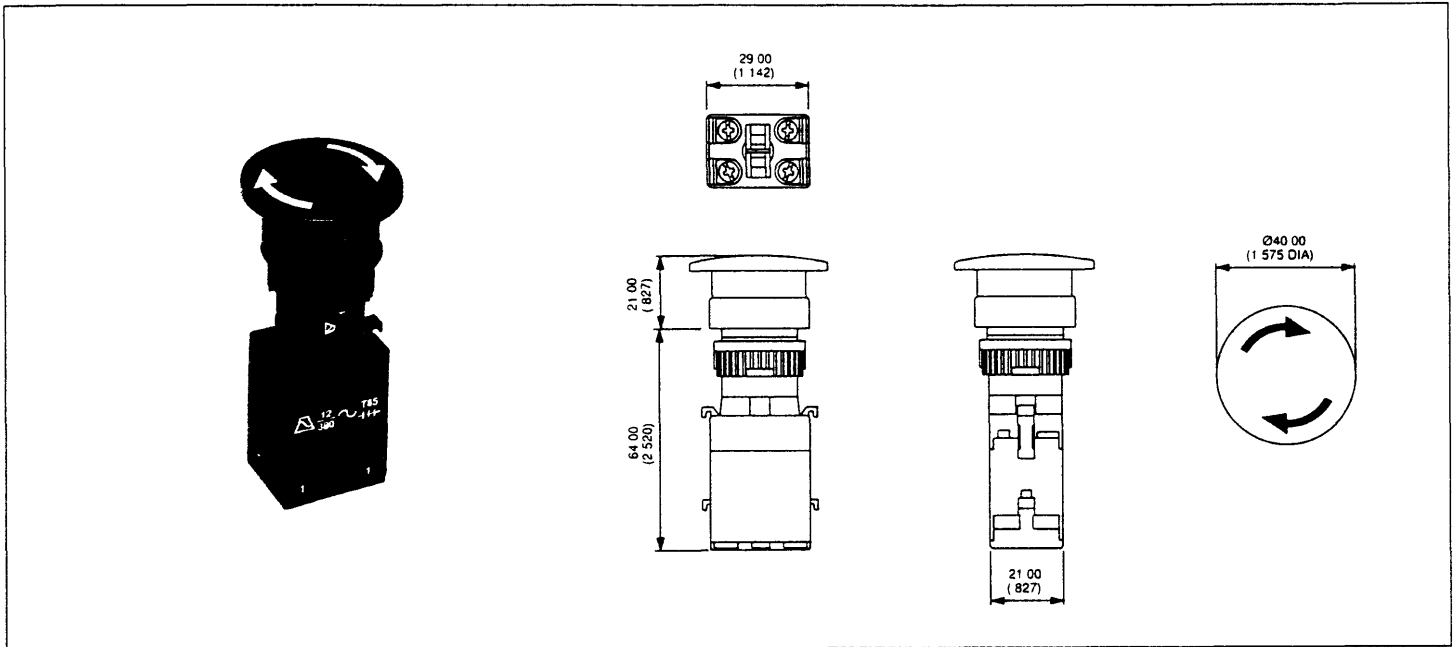
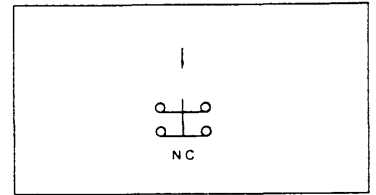
A02 SERIES

EMERGENCY STOP SWITCHES

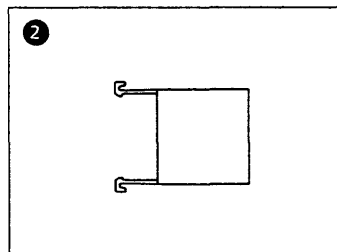
Panel cut-out Ø22 (.866)

- Prominent 40mm (1.575) dia red mushroom actuator
- Highly reliable positive break switch
- Push to shut off, twist to reset to ON

Emergency stop switch assembly requires: operator + switch block
CONFORMS TO UL1054/EN60947

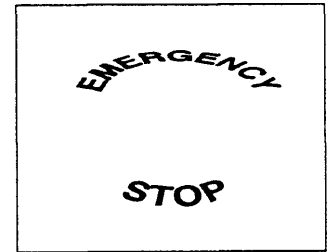


Operator



Switch block

Accessory



90Ømm Self Adhesive Label

Description	Part No	No of poles	Part No
E-Stop operator	A02ES	Double pole	A02511
		Single pole	A02512

Description	Part No
Yellow label with text	A02YL1
Yellow label	A02YL2

MUSHROOM HEAD PUSHBUTTONS

Operator

Switch block

Bezel	Description	Part No	Contacts	Part No
○	Red momentary	A02MMB	1 N.O.	A02501
○	Black momentary	A02MMA	1 N.C.	A02502
○	Red maintained	A02MXB	2 N.O.	A02503
○	Black maintained	A02MXA	2 N.C.	A02504
			1 N.O./1 N.C.	A02505

Momentary and maintained function mushroom head pushbutton acutators.

Momentary function version is unmarked (Mushroom head pushbuttons share the same dimensions as emergency stop switches).

Mushroom head pushbutton assembly requires:
 operator + switchblock

For other colour variations please contact APEM Components

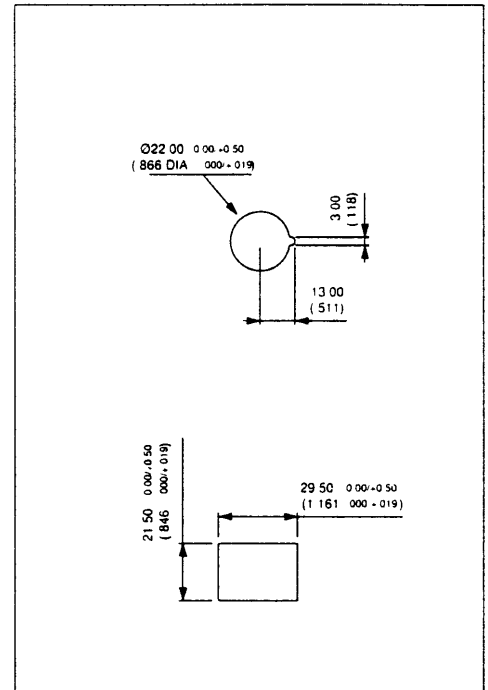
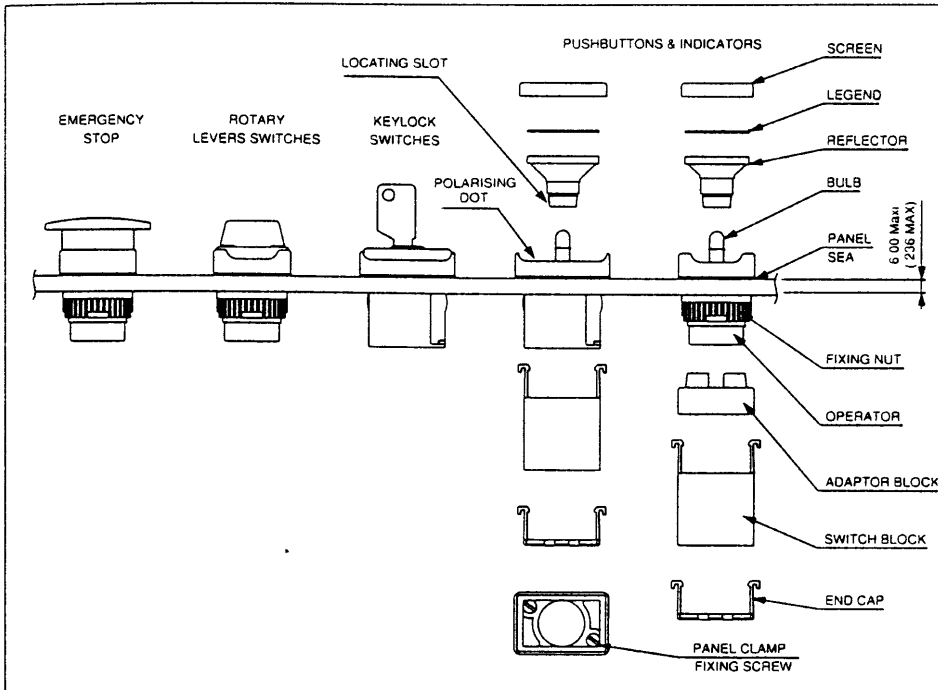
UNSEALED SWITCHES (IP40) : add '01' to end of OPERATOR model number

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 (optional).
- 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.

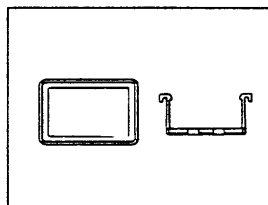
TO REMOVE BULB

Remove reflector/screen assembly by inserting tool No 30-0006 between the bezel finger guard and the screen to engage the slot and pulling. Use the bulb extractor 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 of operator.

A02 Accessory



Part No. : 14-0005

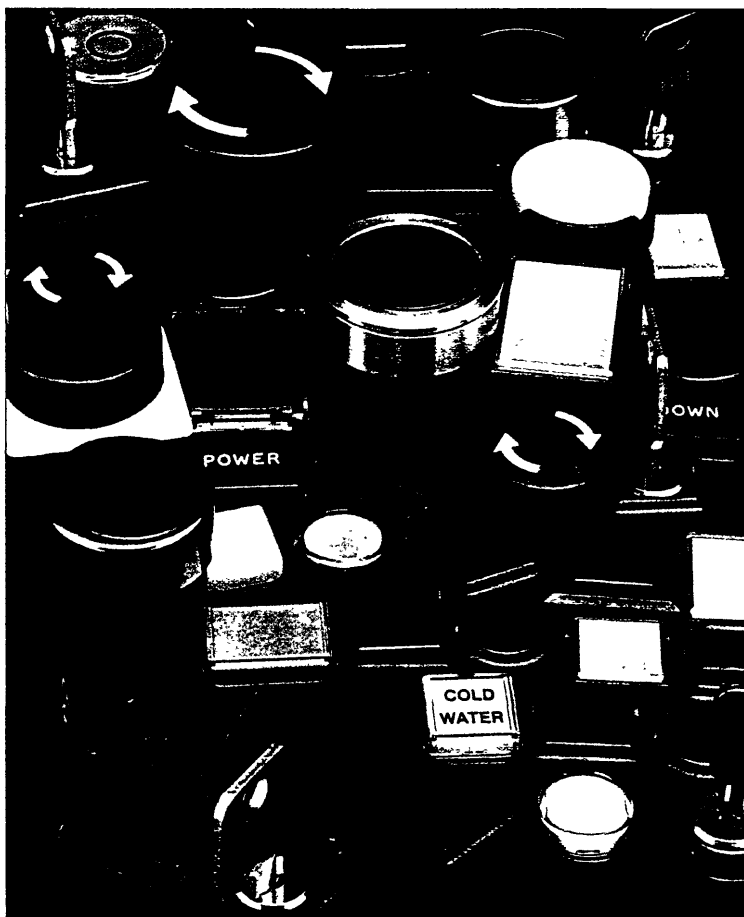
END CAP TERMINAL GUARD OFFERING UNIQUE TERMINAL PROTECTION

Dimensions: First dimensions are in mm while inches are shown in bracketted numbers.

Tolerance: The general tolerance for dimensions in this catalogue is $\pm 0,3$ (.012).

Dimensions, specifications and data shown in this catalogue are subject to change without notice.

APEM : a world of switching capabilities



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A P E M

