

## 22mm Metal Push Buttons

### Control and Signalling devices Ø 22.5mm

This range of Ø 22.5mm push buttons, selector switches, illuminated switches, illuminated selector switches and pilot lights have been designed to provide the following features:

- Economy of space
- Self-wiping contacts
- Safe operation
- Simple to mount (screw driver is all that is required)
- Fixing method unaffected by excessive vibration-unit does not loosen
- Protection against electric shock (unit grounded)
- Aesthetically pleasing
- Heavy-duty construction
- Shrouded terminals
- Flame resistant materials
- Use of LEDs for long life and minimum maintenance

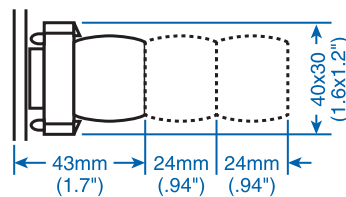
### Actuators

The circular actuators have chrome plated metal bezels, and are interchangeable with different contact elements. Custom colors and finishes (black, silver satin, etc.) are available.

### Contact Elements

The contact elements are double break and have self-wiping contacts. The elements are interchangeable and can be stacked without additional hardware. 1 to 6 elements (NO or NC) can be used with non-illuminated actuators, whereas, 1 to 4 elements (NO or NC) can be used for illuminated actuators. Gold plated NO and NC contact elements for low voltage, low current switching circuits < 25 mA, are available.

Multiple Switch Contact Assembly



### LED Illuminated Actuators and Pilot Lights

LED illuminated actuators & pilot lights are supplied with LED in bayonet cap suitable for operating at various voltages. LED bulbs with bayonet cap are constructed in the standard BA9S design.

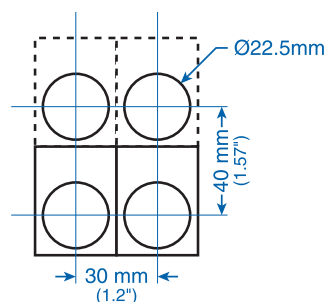
### Terminals

Contact elements and pilot lights are designed to have shrouded terminals with combination flat/phillips screws.

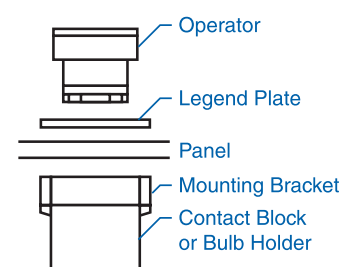
### Mounting

These Ø 22.5 control devices can be mounted in any position in panels of 1 to 6 mm (.039 - .236 in.) thickness. We recommend minimum fixing centers of 30 x 40mm (1.2 x 1.57 inches). However, the dimensions and configuration should be decided on the basis of the application. The actuators and the lens assemblies lock on to the holding bracket using a bayonet type of fixing which enables a simple and fast assembly. The complete assembly is locked into position on the panel by two M4 pointed screws on the bracket, tightened equally from the rear. The screws should be tightened to such an extent as to pierce through the paint on the panel from inside. These screws also ensure the grounding of the unit.

Panel Cutout with minimum space requirements



Sample Push Button Assembly



# 22mm Non-Illuminated Metal Selector Switch Operators



Certified for  
**NEMA Type 4X**  
12 environment.

## Key Selector

with mounting bracket



Other key combinations and colors are available on request.  
All keys are "keyed alike". Different keys are available on request.

Color	Description	Key Removal	Cat No.
Black	Maintained	Left/Right	2AK2-01
Black	Maintained	Left	2AK2-02
Black	Maintained	Right	2AK2-03
Black	Spring Return	Left	2AK2-04
Black	Maintained	Left/Right	2AK2-05
Black	Maintained	All	2AK2-06
Black	Maintained	Center	2AK2-07
Black	Spring Return	Center	2AK2-08
Black	Spring Return	Center	2AK2-09
Black	Spring Return	Center	2AK2-10
Black	Maintained	Left	2AK2-11



Replacement Key

2KY455

## Selector

with mounting bracket



Other colors are available on request.

Color	Description	Cat No.
Black	Maintained	2AS2-1
Black	Spring Return	2AS2-2
Black	Maintained	2AS2-3
Black	Spring Return	2AS2-4
Black	Spring Return	2AS2-5
Black	Spring Return	2AS2-6

## Extended Selector

with mounting bracket



Other colors are available on request.

Color	Description	Cat No.
Black	Maintained	2AS2E-1
Black	Spring Return	2AS2E-2
Black	Maintained	2AS2E-3
Black	Spring Return	2AS2E-4
Black	Spring Return	2AS2E-5
Black	Spring Return	2AS2E-6

## Switch Contacts

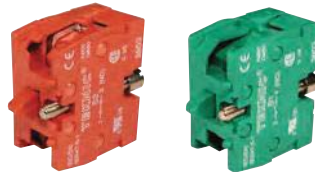
(sold separately)



### Markings on Request



Altech Push Buttons are available in a variety of markings, including molded arrows. Please contact Altech for further information and part numbers.



- Heavy-duty contact blocks with mounting screws. Blocks can be stacked 2 blocks across by 3 blocks deep for a total of 6 circuits.
- Contact blocks are available with silver contacts or gold plated contacts
- Self-wiping contacts

### Panel Mount

Normally Open Silver	<b>S1</b>
Normally Closed Silver	<b>S2</b>
Normally Open Gold Plated	<b>S3</b>
Normally Closed Gold Plated	<b>S4</b>

### Base Mount\*

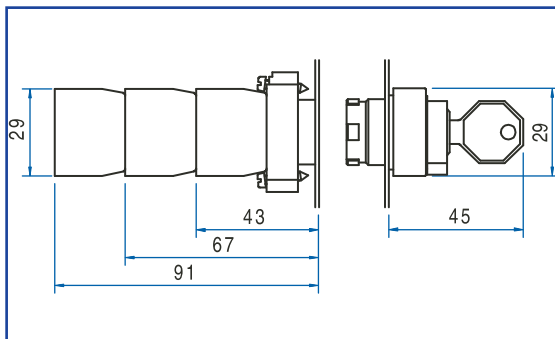
Normally Open Silver	<b>S5</b>
Normally Closed Silver	<b>S6</b>
Normally Open Gold Plated	<b>S7</b>
Normally Closed Gold Plated	<b>S8</b>

\* For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.

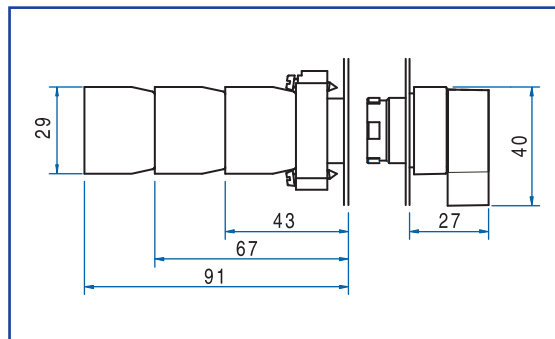
## Dimensional Drawings

All dimensions shown in millimeters.  
To convert to inches multiply by 0.03937

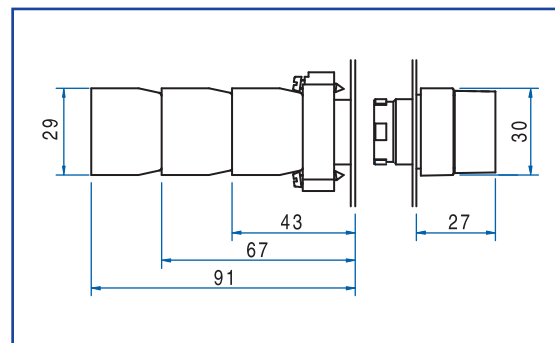
Key Selector



Extended Selector



Selector



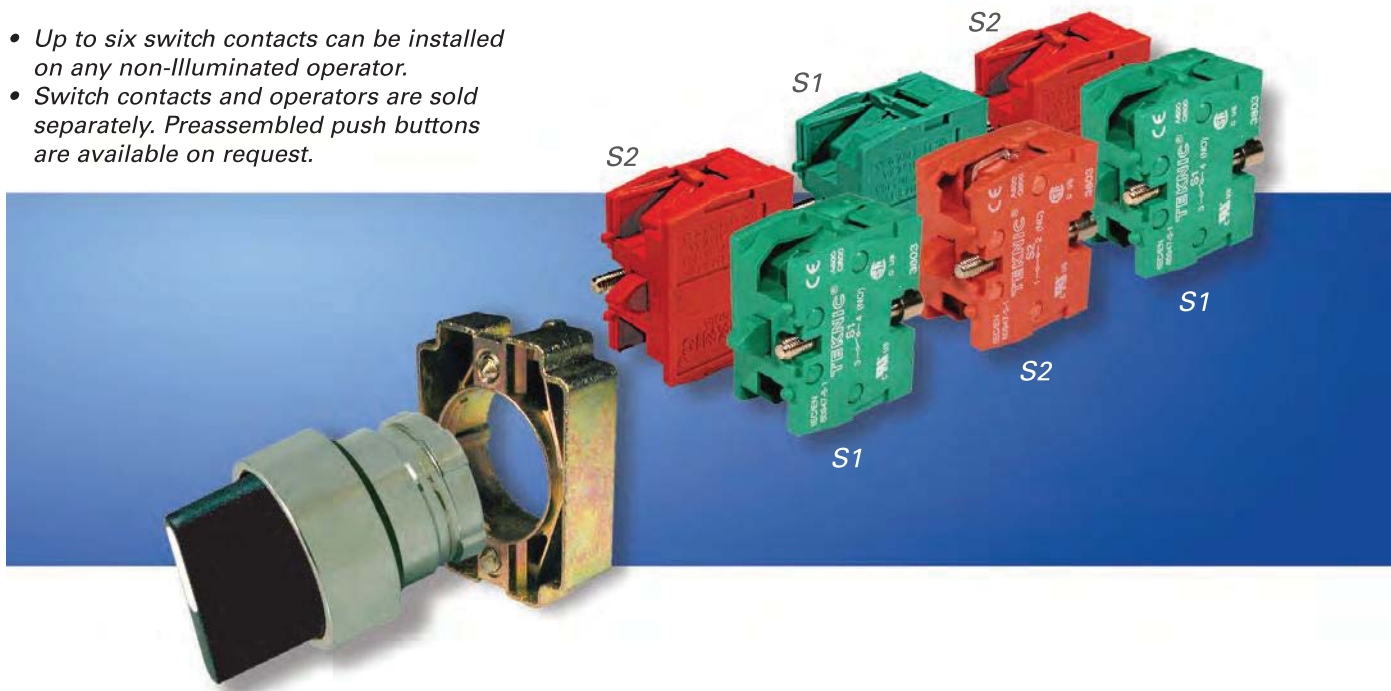
3 POSITION  
SELECTOR SWITCH  
CONTACT BLOCK GUIDE

			CONTACTOR BLOCK GUIDE
↻	↑	↻	
×	○	○	1 NO (left)
○	×	○	2 NC in series (side x side)
○	○	×	1 NO (right)
×	×	○	1 NC (right)
○	×	×	1 NC (left)
×	○	×	2 NO in parallel (side x side)

(Left or right as seen from front of operator)

## Exploded Assembly View

- Up to six switch contacts can be installed on any non-illuminated operator.
- Switch contacts and operators are sold separately. Preassembled push buttons are available on request.



## 22mm Specifications

### Electrical and Mechanical Characteristics

Standard conformity:	IEC 60947-5-1
Approvals:	VDE0660 CSA - C22.2 No. 14-95 UL508 IEC 947 - 5 (1) 1990, IS 13947 ASTA UK certified as per IEC 947 - 5 - (1) 1990
Degree of protection:	IP 65 as per IEC 529 NEMA Type 4X, 12 as per UL50
Temperature Range:	- 25°C to + 70°C (-13°F to +158°F)

### Contact Block

Rated voltage:	600V AC /DC
Rated current:	10A AC / 2.5A DC
Contact operation:	self-wiping, slow break NO or NC
UL508 rating (pilot duty):	
CSA - C22.2 No. 14-95:	A600: 10A; 600V AC Q600: 2.5A; 600V DC
Make and break capacity	
IEC 947 - 5 - (1) 1990:	AC 15 4A, 415V AC DC 13 0.5A, 110V DC
Terminal capacity:	minimum 20 AWG (0.5 mm <sup>2</sup> ) maximum 2x16 AWG (2 x 1.5 mm <sup>2</sup> ) or 14 AWG (2.5 mm <sup>2</sup> )
Terminal marking:	1-2 for NC, 3-4 for NO
Short circuit protection:	10A cartridge fuse HRC type, rated for resistive loads
Mechanical life:	1 million operations

### Modules for Pilot Lights & Illuminated Switches with LED Bulbs

Current consumption (applicable to all colors)	
24 VAC/DC, 100 VAC & 240 VAC:	max. 20 mA
110 VDC:	max. 15 mA
220 VDC:	max. 10 mA
Service life (at nominal voltage and at ambient temperature of 25°C):	100,000 hours
Voltage limits (nominal voltage):	<20% of rated voltage>
Short circuit protection:	on specific request
Terminal capacity:	min. 1 x 0.5 mm <sup>2</sup> (20 AWG), max. 2 x 1.5 mm <sup>2</sup> (2x16 AWG) or 1 x 2.5 mm <sup>2</sup> (1x14 AWG)

### Torque Specifications

Mounting bracket screws	1.2 Nm (10.8 lbs. in.)
Contact block to bracket screws	0.5 Nm (4.5 lbs. in.)
Terminal screws (wiring)	0.8 Nm (7.2 lbs. in.)