

TEKNIC

PRODUCT RANGE

CONTROL AND SIGNALLING DEVICES 22.5mm









PUSH BUTTONS

Non-illuminated (including actuator + flange)

Type		Colour	Part No
FLUSH		White	2AF1
		Black	2AF2
		Green	2AF3
		Red	2AF4
		Blue	2AF6
		Yellow	2AF8
PROJECTING		White	2AP1
		Black	2AP2
		Green	2AP3
		Red	2AP4
		Blue	2AP6
		Yellow	2AP8
BOOTED		Black	2AB2
		Green	2AB3
		Red	2AB4
		Blue	2AB6
		Yellow	2AB8
MUSHROOM HEAD 40mm Spring Return		Black	2AM2
		Green	2AM3
		Red	2AM4
		Blue	2AM6
		Yellow	2AM8
40mm Pull to Return		Red	2AMPP4
40mm Turn to Release		Black	2AML2
		Red	2AML4
		Red (EN 418)	2AMLT4
60mm Spring Return		Black	2AMJ2
		Red	2AMJ4
60mm Turn to Release		Black	2AMLJ2
		Red	2AMLJ4
30mm Turn to Release		Black	2AMLS2
		Red	2AMLS4
40mm Key Release		Black	2AMLKB2
		Red	2AMLKB4

PUSH BUTTONS

Illuminated (including actuator + flange)

Type		Colour	Part No
FLUSH DIRECT (no resistor or bulb)		White	2ALF1
		Green	2ALF3
		Red	2ALF4
		Amber	2ALF5
		Blue	2ALF6
		Clear	2ALF7
		Yellow	2ALF8
		FLUSH (with resistor 240V/130V, no bulb)	
Green	2ALRF3		
Red	2ALRF4		
Amber	2ALRF5		
Blue	2ALRF6		
Clear	2ALRF7		
Yellow	2ALRF8		
FLUSH LED (without bulb)			
		Green	2ALRF3LB
		Red	2ALRF4LB
		Amber	2ALRF5LB
		Blue	2ALRF6LB
		Clear	2ALRF7LB
		Yellow	2ALRF8LB
		FLUSH LED (with bulb - 230V, 110V, 48V, 24V, 12V AC or DC to be specified)	
Green	2ALRF3L		
Red	2ALRF4L		
Amber	2ALRF5L		
Blue	2ALRF6L		
Clear	2ALRF7L		
Yellow	2ALRF8L		
PROJECTING DIRECT (no resistor or bulb)			
		Green	2ALP3
		Red	2ALP4
		Amber	2ALP5
		Blue	2ALP6
		Clear	2ALP7
		Yellow	2ALP8
		PROJECTING (with resistor 240V/130V no bulb)	
Green	2ALRP3		
Red	2ALRP4		
Amber	2ALRP5		
Blue	2ALRP6		
Clear	2ALRP7		
Yellow	2ALRP8		

PUSH BUTTONS



Illuminated (including actuator + flange)

Type	Colour	Part No
PROJECTING LED (without bulb)	White	2ALRP1LB
	Green	2ALRP3LB
	Red	2ALRP4LB
	Amber	2ALRP5LB
	Blue	2ALRP6LB
	Clear	2ALRP7LB
	Yellow	2ALRP8LB
PROJECTING LED (with bulb 230V, 110V, 48V, 24V, 12V AC or DC to be specified)	White	2ALP1L
	Green	2ALP3L
	Red	2ALP4L
	Amber	2ALP5L
	Blue	2ALP6L
	Clear	2ALP7L
	Yellow	2ALP8L
PROJECTING PUSH PUSH DIRECT (no resistor or bulb)	White	2ALPP1
	Green	2ALPP3
	Red	2ALPP4
	Amber	2ALPP5
	Blue	2ALPP6
	Clear	2ALPP7
	Yellow	2ALPP8
PROJECTING PUSH PUSH (with resistor 240V/130V, no bulb)	White	2ALRPP1
	Green	2ALRPP3
	Red	2ALRPP4
	Amber	2ALRPP5
	Blue	2ALRPP6
	Clear	2ALRPP7
	Yellow	2ALRPP8
PROJECTING PUSH PUSH LED (without bulb)	White	2ALRPP1LB
	Green	2ALRPP3LB
	Red	2ALRPP4LB
	Amber	2ALRPP5LB
	Blue	2ALRPP6LB
	Clear	2ALRPP7LB
	Yellow	2ALRPP8LB
PROJECTING PUSH PUSH LED (with bulb: 230V, 110V, 48V, 24V, 12V AC or DC to be specified)	White	2ALRPP1L
	Green	2ALRPP3L
	Red	2ALRPP4L
	Amber	2ALRPP5L
	Blue	2ALRPP6L
	Clear	2ALRPP7L
	Yellow	2ALRPP8L



DOUBLE-HEADED PUSH BUTTONS

Non-illuminated (including actuator + flange)

Type			Part No
Flush Green/ Flush Red		Unmarked	2ATF3F4
		Marked I O	2ATF3F4IO
Flush Green/ Projecting Red		Unmarked	2ATF3P4
		Marked I O	2ATF3P4IO

Illuminated (including actuator + flange)

Flush Green/ Flush Red (no resistor or bulb)		Unmarked	2ATL5F3F4
		Marked I O	2ATL5F3F4IO
Flush Green/ Projecting Red (no resistor or bulb)		Unmarked	2ATL5F3P4
		Marked I O	2ATL5F3P4IO
Flush Green/Flush Red (240V/130V resistor, no bulb)		Unmarked	2ATLR5F3F4
		Marked I O	2A TLR5F3F4IO


SELECTOR SWITCHES

Non-illuminated (including actuator + flange)

2 POSITION STAYPUT		Standard	2AS2-2P
		Extended	2AS2E-2P
SPRING RETURN RIGHT TO LEFT		Standard	2AS2-2PSR
		Extended	2AS2E-2PSR
3 POSITION STAYPUT		Standard	2AS2-3P
		Extended	2AS2E-3P
SPRING RETURN TO CENTRE		Standard	2AS2-3PSR
		Extended	2AS2E-3PSR
SPRING RETURN LEFT TO CENTRE		Standard	2AS2-3PSRL
		Extended	2AS2E-3PSRL
SPRING RETURN RIGHT TO CENTRE		Standard	2AS2-3PSRR
		Extended	2AS2E-3PSRR

SELECTOR SWITCHES

Illuminated (including actuator + flange)

Type	Colour	Part No
<p>2 POSITION STAYPUT DIRECT (no resistor or bulb)</p> 	White	2ASL1-2P
	Green	2ASL3-2P
	Red	2ASL4-2P
	Amber	2ASL5-2P
	Blue	2ASL6-2P
	Clear	2ASL7-2P
	Yellow	2ASL8-2P
	<p>2 POSITION STAYPUT (with resistor 240V/130V no bulb)</p>	White
Green		2ASLR3-2P
Red		2ASLR4-2P
Amber		2ASLR5-2P
Blue		2ASLR6-2P
Clear		2ASLR7-2P
Yellow		2ASLR8-2P
<p>2 POSITION SPRING RETURN RIGHT TO LEFT (no resistor or bulb)</p>		White
	Green	2ASL3-2PSR
	Red	2ASL4-2PSR
	Amber	2ASL5-2PSR
	Blue	2ASL6-2PSR
	Clear	2ASL7-2PSR
	Yellow	2ASL8-2PSR
	<p>2 POSITION SPRING RETURN RIGHT TO LEFT (with resistor 240V/130V, no bulb)</p>	White
Green		2ASLR3-2PSR
Red		2ASLR4-2PSR
Amber		2ASLR5-2PSR
Blue		2ASLR6-2PSR
Clear		2ASLR7-2PSR
Yellow		2ASLR8-2PSR
<p>2 POSITON STAYPUT LED (no bulb)</p>		White
	Green	2ASLR3LB-2P
	Red	2ASLR4LB-2P
	Amber	2ASLR5LB-2P
	Blue	2ASLR6LB-2P
	Clear	2ASLR7LB-2P
	Yellow	2ASLR8LB-2P

3 POSITION SPRING RETURN ACTUATORS ARE ALSO AVAILABLE, PLEASE ASK FOR DETAILS

SELECTOR SWITCHES

Illuminated (including actuator + flange)

Type	Colour	Part No
2 POSITION STAYPUT LED (230V, 110V, 48V, 24V, 12V AC or DC to be specified)	White	2ASLR1L-2P
	Green	2ASLR3L-2P
	Red	2ASLR4L-2P
	Amber	2ASLR5L-2P
	Blue	2ASLR6L-2P
	Clear	2ASLR7L-2P
	Yellow	2ASLR8L-2P
	3 POSITION STAYPUT DIRECT (no resistor or bulb)	White
Green		2ASL3-3P
Red		2ASL4-3P
Amber		2ASL5-3P
Blue		2ASL6-3P
Clear		2ASL7-3P
Yellow		2ASL8-3P
3 POSITION STAYPUT DIRECT (with resistor 240V/130V no bulb)		White
	Green	2ASLR3-3P
	Red	2ASLR4-3P
	Amber	2ASLR5-3P
	Blue	2ASLR6-3P
	Clear	2ASLR7-3P
	Yellow	2ASLR8-3P
	3 POSITION STAYPUT LED (no bulb)	White
Green		2ASLR3LB-3P
Red		2ASLR4LB-3P
Amber		2ASLR5LB-3P
Blue		2ASLR6LB-3P
Clear		2ASLR7LB-3P
Yellow		2ASLR8LB-3P
3 POSITION STAYPUT LED (230V, 110V, 48V, 24V, 12V AC or DC to be specified)		White
	Green	2ASLR3L-3P
	Red	2ASLR4L-3P
	Amber	2ASLR5L-3P
	Blue	2ASLR6L-3P
	Clear	2ASLR7L-3P
	Yellow	2ASLR8L-3P



3 POSITION SPRING RETURN ACTUATORS ARE ALSO AVAILABLE, PLEASE ASK FOR DETAILS

PILOT LIGHTS

(including head + body)

Type

Colour

Part No

PILOT LIGHT DIRECT

(no resistor or bulb)



White

2PLB1

Green

2PLB3

Red

2PLB4

Amber

2PLB5

Blue

2PLB6

Clear

2PLB7

Yellow

2PLB8

PILOT LIGHT

(with resistor 240V/ 130V,
no bulb)



White

2PLBR1

Green

2PLBR3

Red

2PLBR4

Amber

2PLBR5

Blue

2PLBR6

Clear

2PLBR7

Yellow

2PLBR8

LED PILOT LIGHTS

(no bulb)

White

2PLBR1LB

Green

2PLBR3LB

Red

2PLBR4LB

Amber

2PLBR5LB

Blue

2PLBR6LB

Clear

2PLBR7LB

Yellow

2PLBR8LB

LED PILOT LIGHTS

(230V, 110V, 48V, 24V,
12V AC or DC to be specified)

White

2PLBR1L

Green

2PLBR3L

Red

2PLBR4L

Amber

2PLBR5L

Blue

2PLBR6L

Clear

2PLBR7L

Yellow

2PLBR8L

TRANSFORMER PILOT LIGHTS

(240V/6V or 110V/6V
to be specified. No bulb)

White

2PLBT1 240V

Green

2PLBT3 240V

Red

2PLBT4 240V

Amber

2PLBT5 240V

Blue

2PLBT6 240V

Yellow

2PLBT8 240V


KEY SWITCHES

(including head + body)

Type		Key Removable	Part No
2 POSITION STAYPUT		Both positions	2AK2-2PB
		Left Hand only	2AK2-2PO
		Right Hand only	2AK2-2PI
SPRING RETURN RIGHT TO LEFT		Left Hand only	2AK2 -2POSR
3 POSITION STAYPUT		All Positions	2AK2-3PA
		Both Left & Right	2AK2 -3PB
		Centre only	2AK2-3PC
SPRING RETURN TO CENTRE LEFT TO CENTRE RIGHT TO CENTRE		Centre Only	2AK2-3PSR
		Centre Only	2AK2-3PSRL
		Centre Only	2AK2-3PSRR

ACCESSORIES

Contact Blocks

ACTUATOR MOUNTING		Normally Open	S1
		Normally Closed	S2
BASE MOUNTING		Normally Open	S5
		Normally Closed	S6
GOLD-PLATED MOUNTING		Normally Open	S3
		Normally Closed	S4

Relay Reset Actuator

RELAY RESET
ACTUATOR




Black
Green
Red
Yellow



2AF2RR
2AF3RR
2AF4RR
2AF8RR

ACCESSORIES

Legends


	Text	Part No	Text	Part No
<p>LEGEND PLATES (30mm x 40mm)</p>  <p>60mm diameter YELLOW/BLACK</p>	START	2LP1	FAST	2LP12
	STOP	2LP2	RESET	2LP13
	FORWARD	2LP3	INCH	2LP14
	REVERSE	2LP4	AUTO O HAND	2LP16
	UP	2LP5	START STOP	2LP17
	DOWN	2LP6	UP DOWN	2LP18
	OPEN	2LP7	AUTO HAND	2LP19
	CLOSE	2LP8	1/11	2LP20
	AUTO	2LP9	0/1	2LP21
	HAND	2LP10	FORWARD REVERSE	2LP22
	SLOW	2LP11	1/0/11	2LP23
	EMERGENCY STOP	2LP15	OFF ON	2LP24

Bulbs


	Part No/Voltage	Wa tts
<p>FILAMENT BULBS</p> 	BA9S 6V	1.0W
	BA9S 12V	2.0W
	BA9S 24V	2.0W
	BA9S 30V	2.0W
	BA9S 48V	2.0W
	BA9S 60V	2.0W
	BA9S 130V	2.6W
	BA9S 240V	3.4W
<p>LED BULBS 24V</p> 	White	MCB9124
	Green	MCB9324
	Red	MCB9424
	Amber	MCB9524
	Blue	MCB9624
	Yellow	MCB9824
<p>110V</p>	White	MCB91110
	Green	MCB93110
	Red	MCB94110
	Amber	MCB95110
	Blue	MCB96110
	Yellow	MCB98110
<p>230V</p>	White	MCB91240
	Green	MCB93240
	Red	MCB94240
	Amber	MCB95240
	Blue	MCB96240
	Yellow	MCB98240

ACCESSORIES

Lenses



		Colour	Part No
FOR PILOT LIGHTS		White	2PLL1
		Green	2PLL3
		Red	2PLL4
		Amber	2PLL5
		Blue	2PLL6
		Clear	2PLL7
		Yellow	2PLL8
	FOR LUMINOUS ACTUATORS		White
Green			2LAL3
Red			2LAL4
Amber			2LAL5
Blue			2LAL6
Clear			2LAL7
Yellow			2LAL8
FOR TWIN LUMINOUS ACTUATORS			
		Green	2TLAL3
		Red	2TLAL4
		Amber	2TLAL5
		Blue	2TLAL6
		Clear	2TLAL7
		Yellow	2TLAL8

Lamp Heads

		Colour	Part No
FOR FILAMENT PILOT LIGHTS		White	2PLLA1
		Green	2PLLA3
		Red	2PLLA4
		Amber	2PLLA5
		Blue	2PLLA6
		Clear	2PLLA7
		Yellow	2PLLA8
		FOR LED PILOT LIGHTS	
	Green		2PLLA3L
	Red		2PLLA4L
	Amber		2PLLA5L
	Blue		2PLLA6L
	Clear		2PLLA7L
	Yellow		2PLLA8L

ACCESSORIES



Lamp Heads

		Colour	Part No
FOR FILAMENT ILLUMINATED PUSH BUTTONS		White	2LALA1
		Green	2LALA3
		Red	2LALA4
		Amber	2LALA5
		Blue	2LALA6
		Clear	2LALA7
		Yellow	2LALA8
		FOR LED ILLUMINATED PUSH BUTTONS	
Green	2LALA3L		
Red	2LALA4L		
Amber	2LALA5L		
Blue	2LALA6L		
Clear	2LALA7L		
Yellow	2LALA8L		

Lamp Holders

		Part No
FILAMENT LAMP HOLDER WITHOUT RESISTOR		2LHB
FILAMENT LAMP HOLDER WITH RESISTOR		2LHBR
LED LAMP HOLDER (230V, 110V, 24V AC or DC to be specified)		2LHBLR

Rubber Boots

Type		Colour	Part No
RUBBER BOOTS		Black	2BT2
		Green	2BT3
		Red	2BT4
		Blue	2BT5
		Yellow	2BT8
CLEAR SILICON BOOTS		for Twin Actuator	2ATBT7
		for Twin Illuminated Actuator	2B TTL7
		for Flush P/B	2BT7
		for 2ALF P/B (deep)	2ALBT7

ACCESSORIES

Others

BULB EXTRACTOR		2BA9SE
BLANKING PLUG for 22.5mm hole (Black)		2BP2
PADLOCKABLE GUARD: Mushroom Actuator Projecting Actuator		2PADL1 2PADL2
FIXING FLANGE		2BRK
ADAPTOR (30.5mm hole to 22.5mm hole)		2ADP
SPARE KEYS (Set of 2)		2KY455
LATCHING DEVICE: (To change standard push buttons and illuminated push buttons to latching)		2PPM

PUSH BUTTON STATIONS (PLASTIC IP65)

Empty Enclosures

For One Actuator (yellow lid)	65mm x 65mm x 57mm	2PBS001Y
For One Actuator (grey lid)	65mm x 65mm x 57mm	2PBS001
For Two Actuators (grey lid)	94mm x 65mm x 57mm	2PBS002
For Three Actuators (grey lid)	140mm x 80mm x 65mm	2PBS003
For Four Actuators (grey lid)	140mm x 80mm x 65mm	2PBS004

One Position Enclosures (including mushroom button + legend plate)

Emergency Stop Spring Return	2PBS101
Emergency Stop Twist to Release	2PBS102
Emergency Stop Key Release	2PBS103

Control & Signalling Devices 22.5mm

Salient Features

This range of 22.5mm pushbuttons, selector switches, illuminated switches, illuminated selector switches, and pilot lights have been designed to provide the following salient features:-

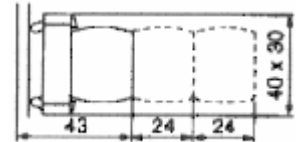
- Economy of space
- Aesthetically elegant
- SELF WIPING CONTACTS
- Larger operating surface than 30.5mm series
- Robust in materials of construction
- Simple to fix - screwdriver is all that is required
- Safe in operation
 1. Fixing method unaffected by excessive vibration unit does not rotate
 2. Very good flame resistance
 3. Protection against electrical shock (unit earthed)
 4. Shielded terminals

Actuators

The circular actuators have chrome-plated metal bezels, and are functionally interchangeable on the different types of contact elements.

Contact Elements & Pilot Lights

The contact elements are double-break and have **self wiping** contacts. The elements are inter-changeable and can be stacked without additional hardware. 1 to 6 elements (NO or NC) can be used with pushbuttons and selector switches. For illuminated switches, 1 or 2 elements (NO or NC) can be used.



The pilot lights and illuminated switches are suitable for direct supply through series resistor and diode, using bayonet cap filament bulb type BA9S, as follows:

Supply voltage for direct connection without series resistor	: 6V-130V
Supply voltage through series resistor	: 12V-130V
Supply voltage through series resistor and diode	: 230V (Bulb-30V)
For 230V DC supply, correct polarity during installation to be observed	

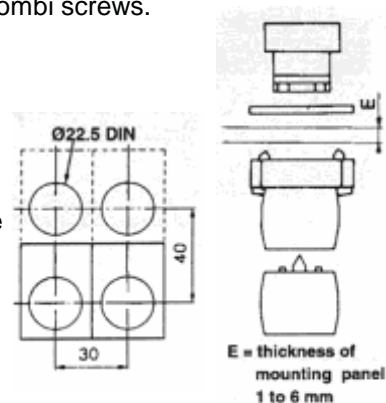
Bulb : Filament, type BA9S with OAL max, 28mm

Pilot lights are also available with LED suitable for operating at various voltages.

Both the contact elements and pilot lights are designed to have terminals with combi screws.

Fixing

The control devices can be fixed in any position on panels 1 to 6mm thickness. We recommend minimum fixing centres of 30mm x 40mm. 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 screw should be tightened adequately to such an extent as to pierce through the paint on the panel from inside. These screws also ensure the earthing of the unit.



Electrical & Mechanical Characteristics

Standards of Conformity	: CSA - C22.2 No. 14-95, UL508, EN 60947 - 5 - 1 2000 IEC 947 - 5 - (1) 1990 tested by ASTA U.K. IS 6875 (1) - 1973 tested in India
Approvals	: ASTA UK Certified as per IEC 947 - 5 - (1) 1990, CSA - C22.2 No 14-95, UL508, VDE 0660
Degree of Protection	: IP65 as per IEC 529 or IS 2147 962
Rated Insulation Voltage	: 500V
Rated Thermal Current	: 10A
Contact Operation	: Self wiping, slow break NO or NC
As per IEC 947 - 5 - (1) 1990	: AC 15.4 A, 415 V AC : DC 13.05 A, 110V DC with time constant of 300 milliseconds
As per IS 6875 - (1) 1973	: AC 11.6 A, 415V AC : DC 11.1 A, 220V DC with a time constant of 1 millisecond

Control & Signalling Devices 22.5mm with LED

LED Illuminated Pushbuttons & Pilot Lights

Salient Features

This range of 22.5mm LED illuminated switches and pilot lights in metal construction and in engineering plastic construction have been designed to provide the following salient features:-

- Low power consumption
- Long life
- Minimum temperature rise
- Very good flame resistance
- Protection against electrical shock
- Shrouded terminals
- Available with integral cluster LED
- Available with LED bulb

LED Illuminated Actuators & Pilot Lights

The circular actuators in metal construction have chrome-plated bezels, and are functionally interchangeable on different types of contact elements.

LED illuminated actuators and pilot lights are available with integral LED, LED in bayonet cap suitable for operating at various voltages namely 6V, 12V, 24V, 30V, 48V, 110V, 230V AC or DC and 415V AC. LED bulbs with bayonet cap are constructed in the standard BA9S design with OAL max 28mm. On specific request an extra short circuit protection consisting of built in fuse in the LED modules can be provided.

Contact Elements

The contact elements are slow break and have **self wiping** contacts. The elements are interchangeable and can be stacked without additional hardware. 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, < 25mA, are available.

Terminals

Contact elements, LED illuminated actuators and pilot lights designed to have shrouded terminals and combi screws.

Fixing

These control devices can be fixed in any position on panels of 1 to 6mm thickness. We recommend minimum fixing centres of 30mm x 40mm. However, the dimensions and configuration should be decided for each application.

Electrical & Mechanical Characteristics

Environment

Standards conforming	: CSA - C22.2 No. 14-95, UL508 : IEC 947-5-(1) 1990, IS 13947
Approvals	: CSA - C22.2 No. 14-95, UL508
Degree of Protection	: IP 65 as per IEC 529, 4X, 12 as per UL508
Ambient	: -25°C to +70°C
Operating Position	: All positions

Modules with Integral Cluster LED

Current consumptions (applicable to all colours)	
24V AC/DC, 110V AC & 240V AC	: max 25A
110V DC	: max 15A
220V DC	: max 10A
Service life (at nominal voltage and at ambient temperature of 25°C)	: 100,000 hours
Voltage limits (nominal voltage)	: <20% of rated voltage>
Low voltage glow protection (nominal voltage)	: 20%
Short circuit protection	: on specific request
Power consumption (at nominal voltage)	
24V AC/DC, 110V AC & 240V AC	: 0.5 watts
110V DC & 220V DC	: 1.75 watts
Terminal capacity	: min 1 x 0.5mm ² , 2 x 1.5mm ² or 1 x 2.5mm ²

