



# Switch Range

With an extensive range of Push Button, Vandal Resistant, Piezo, Slide, Toggle and Rocker switches available, Bulgin & Arcoelectric's switch range is designed to meet the design requirements of a wide variety of industry applications ranging from medical and industrial to marine and commercial electronics.

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Manufactured from **durable stainless steel**, Bulgin's vandal-resistant switches are engineered to withstand high resistance to wear and tear, corrosion, and harsh treatment. Ideal for potentially hostile environments such as public areas, industrial environments, and building management systems, these switches ensure long-lasting performance and security.

Built to endure extreme temperatures, dust, rain, snow, ice, dirt, and moisture, Bulgin's rugged anti-vandal switches are perfect for demanding applications subject to abuse and damage. Applications include kiosks, elevators, pedestrian crossings, and ticket machines.

#### Features:

- Front and rear panel mounted versions
- Vandal switches available in prominent, domed and low profile
- Various switching options such as latching, push on - push off, action.
- IP66, 68 front panel sealing options
- Dot and ring LED illuminated versions
- Illumination voltages 6, 12 and 24V sources,

Variety of illumination colours and are now available with front and rear of panel sealing options

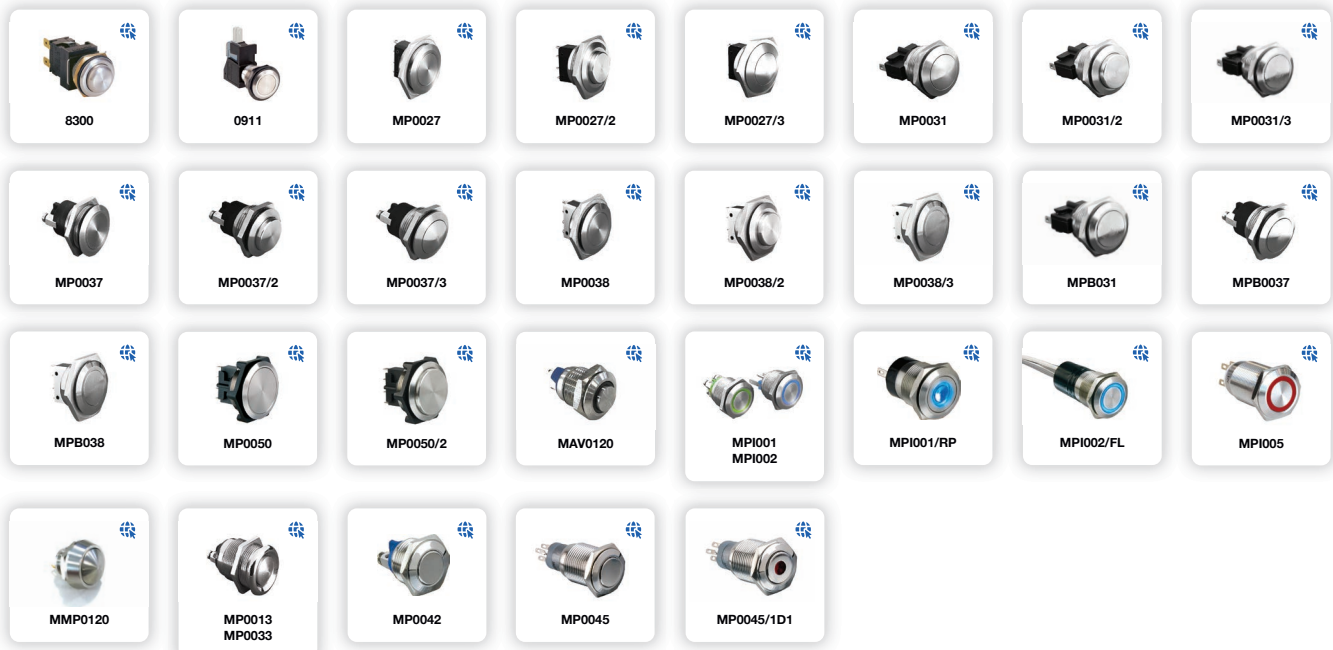


## Body Style &amp; Part Number Information:

## // Vandal Resistant Switches

- 8300 Vandal Resistant Switches - R, V or P Actuators  
8300, 8301, 8350, 8351
- 0911 Push Button Switches - V Actuator  
0911
- Stainless Steel Low Profile Vandal Resistant Push Button Switches  
MP0027, MP0031, MP0037, MP0038
- Stainless Steel Domed Vandal Resistant Push Button Switches  
MP0027/3, MP0031/3, MP0037/3, MP0038/3
- Brass Chrome Plated Low Profile Vandal Resistant Push Button Switches  
MPB031, MPB0037, MPB038, MPB038/3
- 27mm Panel Cutout Stainless Steel Large Diameter Vandal Resistant Push Button Switches  
MP0050, MP0050/2
- 12mm Switches Miniature Stainless Steel Vandal Resistant Prominent Button / Flush Profile  
MAV0120, MAV0120/1, MAV0120/3
- Stainless Steel Illuminated Vandal Resistant Push Button Switches  
MPI001, MPI002
- Vandal Resistant Push Button Switch  
MPI005
- 12mm Switches Miniature Domed Metal Vandal Resistant - None Illuminated - Metal Dome  
MMP0120, MMP01020
- MP0013 Series 19mm Panel Cutout Push Button Switches  
MP0013, MP0013/2, MP0033, MP0033/2
- MP0042 Series Stainless Steel / Momentary Push Button Switch  
MP0042/1, MP0042/2, MP0042/3
- Stainless Steel - Momentary Push Button Switch  
MP0045/1 D0NN000, MP0045/3D0NN000, MP0045/1E0NN000, MP0045/3E0NN000
- Stainless Steel Illuminated Momentary Push Button Switch  
MP0045/1D1, MP0045/1D2, MP0045/1E1, MP0045/1E2

## // Vandal Resistant Switch Product Range:







H8300RP - - -

### Key Features

- Momentary or latching action
- Ratings up to 12(12) @ 250Vac
- Single and double Contacts
- Stainless steel button & bezel
- Vandal resistant construction
- Choice of body styles
- 19.2mm or 22.5mm mounting holes
- Front panel sealed to IP66
- Raised, flat or domed actuator options

### Approvals and specifications

12 A GP, 250 Vac, T85  
 13 A GP, 250 Vac, T85  
 1 hp, 250 Vac, T85, 6E3/1E4

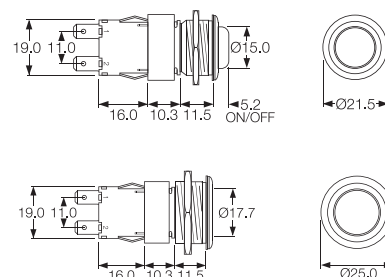
12A 250Vac DP, 13A 250Vac SP  
 250Vac 1hp, 125Vac 1/2hp  
 UL 85°C, file E45221

In house test:  
 10(10)A 250Vac—Indicative rating only

3mm contact gap.

### Dimensions

8300RP (H terminals shown)



Terminal	Function	Actuator	Body Code
<b>C</b>  <b>H</b> 	<b>8300</b> (alternate) Single Contact ON - OFF 	<b>R</b> (for P body only) Raised top (stainless steel) 	
<b>K</b>  <b>T</b> 	<b>8301</b> (momentary ON) Single Contact ON - OFF 	<b>V</b> Flat top (stainless steel) 	
<b>V</b>  <b>X</b> 	<b>8350</b> (alternate) Double Contact ON - OFF  <b>8351</b> (momentary ON) Double Contact ON - OFF 	<b>P</b> (for R actuator only) Stainless steel, Soft profile bezel 	
			<b>M</b> Stainless steel 



C0911VA - - -

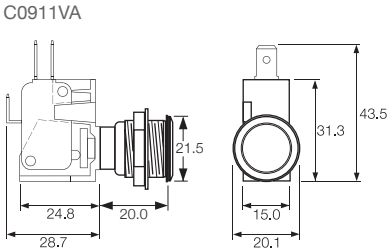
Key Features

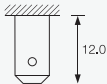



- Snap action switches
- Ratings up to 16A, 250Vac
- Round and rectangular buttons
- Single Contact C/O Switch

Approvals and specifications

Approvals apply to switch mechanism only.  
μ contact gap.

Dimensions



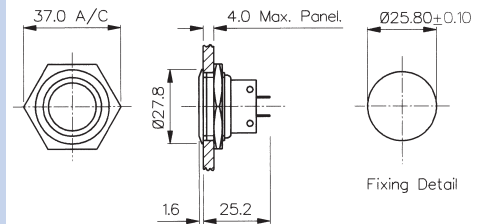
Terminal	Function	Actuator	Body Code
	<div>0911</div> <div>(momentary)</div> <div>ON - ON</div> 	<div>V Flat top (stainless steel)</div> 	<div>A</div> <div>Stainless steel</div> <div>Chamfer profile bezel</div>  <div>Panel cut-out</div> <div>Panel thickness up to 8.0mm</div>

## Front Panel Mounting



MP0027

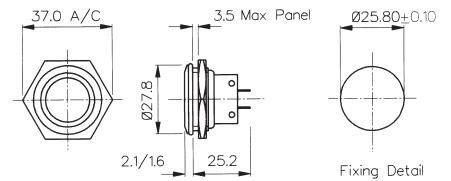
- ⬡ 28mm diameter
- ⬡ S.P.C.O. Microswitch
- ⬡ 5A, 250Vac



## Front Panel Mounting

MP0038  
Sealed to IP66

- ⬡ Front Panel Sealed to IP66
- ⬡ 28mm diameter
- ⬡ S.P.C.O. Microswitch
- ⬡ 5A, 250Vac

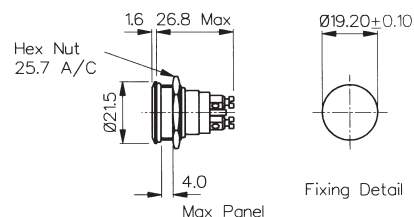


Specifications	MP0027	MP0038
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ
Dielectric Strength:	>2.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):		Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations		
Mechanical:	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm
Materials		
Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	1.0" x 26TPI
RoHS	Compliant	Compliant

## Front Panel Mounting


 MP0037  
 Sealed to IP68

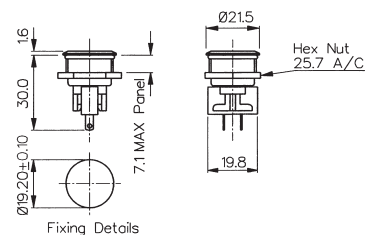
- Front Panel Sealed to IP68
- 21.5mm diameter
- S.P. Push to Make
- 1A, 50Vac/dc
- Industry Standard Size



## Front Panel Mounting


 MP0031  
 Sealed to IP66

- Front Panel Sealed to IP66
- 21.5mm diameter
- S.P.C.O. Microswitch
- 5A, 250Vac



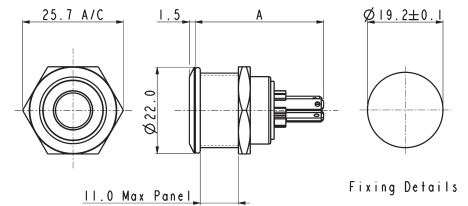
Specifications	MP0037	MP0031
Terminations:	Screw Terminals	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>5</sup> MΩ	>10 <sup>3</sup> MΩ
Dielectric Strength:	>1.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP68 EN 60529:1992+A2:2013 (Micro switch not sealed)	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
IP68 rating 10M for 2 weeks test:	Passed	
Operations		
Mechanical:	1,000,000 (min)	1,000,000 (min)
Electrical:	30,000 (min)	35,000 (min)
Operating Pressure:	10N (typ)	4.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm
Materials		
Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Silver Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver
Thread size:	0.747" x 26TPI	0.747" x 26TPI
RoHS	Compliant	Compliant

## Front Panel Mounting



MPI001 - front panel seal to IP66

- Dot illumination
- 22mm diameter
- Single Contact push to make
- 50mA, 24Vdc contact rating
- Red, Green, Amber, Blue, White or dual colour illumination
- Bright daylight LEDs
- Independent LED terminals
- Front panel seal to IP66
- Integral supply resistors
- TVS protection



MPI001/TAG/COL A = 32.7  
 MPI001/TERM/COL A = 31.0 MAX.

## Specifications

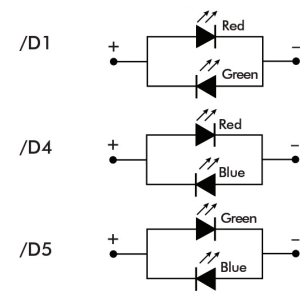
## MPI001/Termination/Colour/Voltage

Illumination style:	Dot							
Terminations:	/28 (2.8mm tabs), /TERM or /TE (screw terminals)							
Switching:	Single Contact, push to make, tactile (momentary action)							
Max. Switch Rating:	50mA, 24Vdc							
LEDs (ratings @ 20mA)								
Part No.	/RD	/GN	/AM	/BL	/WH	/D1	/D4	/D5
Colours	Red	Green	Amber	Blue	White	Red/Green	Red/Blue	Green/Blue
Luminous Intensity	900mcd	2500mcd	900mcd	1500mcd	900mcd	2500mcd/5000mcd	2000mcd/850mcd	4000mcd/2000mcd
Forward Voltage	1.85V	3.5V	2.3V	3.5V	3.6V	2.05V/3.6V	2.0V/3.6V	3.6V/3.6V
Forward Current	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA
Moulding Colour	Red	Green	Amber	Blue	White	Black	Black	Black
Illumination Voltage:	/no suffix No resistor fitted. <b>An appropriate resistor must be series connected by the user.</b> Voltages as above.							
	/6	6Vdc						
	/12	12Vdc						
	/24	24Vdc						
Contact Resistance:	<100mΩ							
Insulation Resistance:	>10 <sup>9</sup> MΩ							
Dielectric Strength:	Contact to Panel >2.0kV Contact to Contact 1500							
Operating Temp. Range:	-30°C to +70°C							
Sealing (Front of panel only):	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)							
Operations								
Mechanical:	750,000 (min)							
Electrical:	35,000 (min)							
Operating Pressure:	12N							
Rear Nut Fixing Torque:	0.57Nm							
Screw Terminal Torque	0.2Nm Max							
Materials								
Switch assembly:	UL94V-0 rated Polyamide (Nylon)							
Tags:	Copper Alloy							
Terminals:	Copper Alloy							
Switch Body & Button:	Stainless Steel							
Lens and Lens Body:	Polycarbonate							
O ring:	Nitrile							
Internal seal:	Silicone							
Contact Plate:	Gold Plated							
Thread size:	18.97mm x 26TPI							



Compliant

## Dual Colour LED Configuration

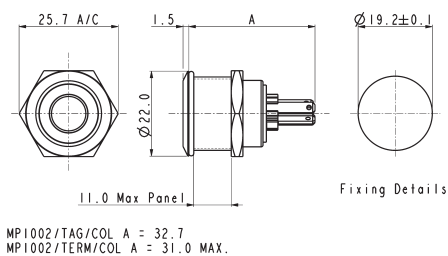


## Front Panel Mounting



MPI002- front panel seal to IP66

- Ring illumination
- 22mm diameter
- Single Contact push to make
- 50mA, 24Vdc contact rating
- Red, Green, Amber, Blue, White or dual colour illumination
- Bright daylight LEDs
- Independent LED terminals
- Front panel seal to IP66
- Integral supply resistors
- TVS protection



## Specifications

## MPI002/Termination/Colour/Voltage

Illumination style:	Ring									
Terminations:	/28 (2.8mm tabs), /TERM or /TE (screw terminals)									
Switching:	Single Contact, push to make, tactile (momentary action)									
Max. Switch Rating:	50mA, 24Vdc									
LEDs (ratings @ 20mA)										
Part No.	/RD	/GN	/AM	/BL	/WH	/D1	/D4	/D5	/D6	
Colours	Red	Green	Amber	Blue	White	Red/Green	Red/Blue	Green/Blue	Green/White	
Luminous Intensity	900mcd	2500mcd	900mcd	1500mcd	900mcd	2500mcd/5000mcd	2000mcd/850mcd	4000mcd/2000mcd	178mcd/450mcd	
Forward Voltage	1.85V	3.5V	2.3V	3.5V	3.6V	2.05V/3.6V	2.0V/3.6V	3.6V/3.6V	3.4V/3.2V	
Forward Current	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA	
Moulding Colour	Red	Green	Amber	Blue	White	Black	Black	Black	Black	
Illumination Voltage:	/no suffix No resistor fitted. <b>An appropriate resistor must be series connected by the user.</b> Voltages as above.									
	/6	6Vdc								
	/12	12Vdc								
	/24	24Vdc								
Contact Resistance:	<100mΩ									
Insulation Resistance:	>10 <sup>3</sup> MΩ									
Dielectric Strength:	Contact to Panel >2.0kV Contact to Contact 1500									
Operating Temp. Range:	-30°C to +70°C									
Sealing (Front of panel only):	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)									
Operations										
Electrical:	35,000 (min)									
Operating Pressure:	12N									
Rear Nut Fixing Torque:	0.57Nm									
Screw Terminal Torque	0.2Nm Max									
Materials										
Switch assembly:	UL94V-0 rated Polyamide (Nylon)									
Tags:	Copper Alloy									
Terminals:	Copper Alloy									
Switch Body & Button:	Stainless Steel									
Lens and Lens Body:	Polycarbonate									
O ring:	Nitrile									
Internal seal:	Silicone									
Contact Plate:	Gold Plated									
Thread size:	18.97mm x 26TPI									

Dual Colour LED Configuration

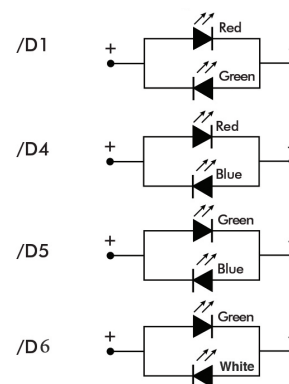
/D1

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Compliant

## Dual Colour LED Configuration

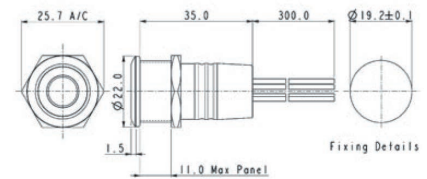


## Rear Panel Sealed - Flying Leads



MPI002/FL/xx/x

- Dot or ring illumination
- 22mm diameter
- Single Contact push to make
- 50mA, 24Vdc contact rating
- Red, Green, Amber, Blue, White or dual colour illumination
- Bright daylight LEDs
- Independent LED terminals
- Front and rear panel seal to IP66
- Integral supply resistors
- TVS protection



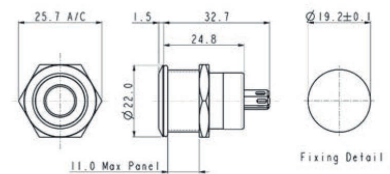
Flying lead colours: LED: red + and black -. Switch contacts: white.

## Rear Panel Sealed - Solder Tags



MPI001/RP/xx/x

- Dot or ring illumination
- 22mm diameter
- Single Contact push to make
- 50mA, 24Vdc contact rating
- Red, Green, Amber, Blue & White illumination
- Bright daylight LEDs
- Independent LED terminals
- Front and rear panel seal to IP66
- Solder tag termination
- TVS protection



LED terminals marked + and -. Switch terminals unmarked.

## Specifications

## MPI001/Termination/Colour/Voltage

Illumination style:	Dot				
Terminations:	/FL (Flying leads) /RP (Solder tags)				
Switching:	Single Contact, push to make, tactile (momentary action)				
Max. Switch Rating:	50mA, 24Vdc				
LEDs (ratings @ 20mA)					
Part No.	/RD	/GN	/AM	/BL	/WH
Colours	Red	Green	Amber	Blue	White
Luminous Intensity	900mcd	2500mcd	900mcd	1500mcd	900mcd
Forward Voltage	1.85V	3.5V	2.3V	3.5V	3.6V
Forward Current	20mA	20mA	20mA	20mA	20mA
Moulding Colour	Red	Green	Amber	Blue	White

Illumination Voltage:	/no suffix	No resistor fitted. An appropriate resistor must be series connected by the user. Voltages as above.
	/6	6Vdc
	/12	12Vdc
	/24	24Vdc
Contact Resistance:	<100mΩ	
Insulation Resistance:	>10³ MΩ	
Dielectric Strength:	Contact to Panel >2.0kV Contact to Contact 1500	

Operating Temp. Range:	-30°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)

Operations	
Mechanical:	750,000 (min)
Electrical:	35,000 (min)

Operating Pressure:	12N
Rear Nut Fixing Torque:	0.57Nm

Materials	
Switch assembly:	UL94V-0 rated Polyamide (Nylon)
Tags:	Copper Alloy
Terminals:	Copper Alloy
Switch Body & Button:	Stainless Steel
Lens and Lens Body:	Polycarbonate
O ring:	Nitrile
Internal seal:	Silicone
Contact Plate:	Gold Plated
Thread size:	18.97mm x 26TPI



Compliant

## MPI002/Termination/Colour/Voltage

Ring					
/FL (Flying leads)					
/RP (Solder tags)					
Single Contact, push to make, tactile (momentary action)					
50mA, 24Vdc					
/RD	/GN	/AM	/BL	/WH	
Red	Green	Amber	Blue	White	
900mcd	2500mcd	900mcd	1500mcd	900mcd	
1.85V	3.5V	2.3V	3.5V	3.6V	
20mA	20mA	20mA	20mA	20mA	
Red	Green	Amber	Blue	White	

/no suffix	No resistor fitted. An appropriate resistor must be series connected by the user. Voltages as above.
/6	6Vdc
/12	12Vdc
/24	24Vdc
<100mΩ	
>10 <sup>3</sup> MΩ	
Contact to Panel	>2.0kV
Contact to Contact	1500

Operating Temp. Range:	-30°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)

35,000 (min)

Operating Pressure:	12N
Rear Nut Fixing Torque:	0.57Nm

Materials	
Switch assembly:	UL94V-0 rated Polyamide (Nylon)
Tags:	Copper Alloy
Terminals:	Copper Alloy
Switch Body & Button:	Stainless Steel
Lens and Lens Body:	Polycarbonate
O ring:	Nitrile
Internal seal:	Silicone
Contact Plate:	Gold Plated
Thread size:	18.97mm x 26TPI

Compliant

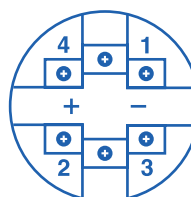
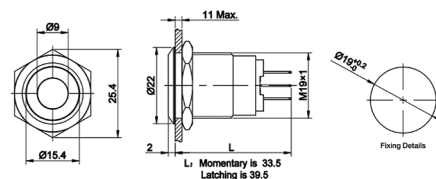


### Low Profile

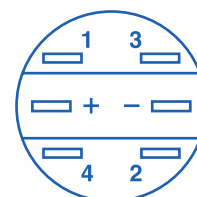


MPI005

- ⬡ 22mm bezel diameter
- ⬡ 19.2mm ± 0.2mm fixing hole diameter
- ⬡ S.P.C.O



## Screw Layout



## Plug Layout

1, 2 are normally closed (NC)  
3, 4 are normally opened (NO)  
+, - are lamp terminals, the standard  
LED terminals have no difference  
of anode and cathode.

## Specifications MPI005/Actuator/Terminal/Function/Material/Colour/Voltage

Terminations:	Plug Terminal or Screw Terminal
Switching:	S.P.C.O Momentary Action and Latching
Sealing:	IP65 (Momentary variants can be made to IP67 upon request)
Max. Rating:	5A @ 12VDC or 24 VDC 5A @ 125VAC 3A @ 250 VAC
Contact Resistance:	50mΩ max. @ 1A, 2V
Insulation Resistance:	>1000 MΩ @ 500Vdc
Dielectric Strength:	> 2.0kVac
Operating Temp. Range:	-25°C to +55°C
Operations	
Mechanical:	1,000,000 (min)
Electrical:	50,000 (min)
Rear Nut Fixing Torque:	0.8Nm
Materials	
Mouldings:	Polycarbonate
Tags/Terminations:	Brass, Gold Plated
Switch Body & Button:	Stainless Steel / Aluminium Alloy
Contacts:	Silver
RoHS	Compliant

MPI / 005 / X / X / X / X / X / X							
Series	Type	Actuator Type	Terminal	Switching Type	Material	Illumination	Voltage
19mm Metal  Push Button	19mm Illuminated AV Switch	<b>D</b> = Dot Illumination  <b>R</b> = Ring  <b>P</b> = Illuminated Power  <b>O</b> = Power Symbol / Ring	<b>28</b> = 2.8mm Plug Terminal  <b>TE</b> = Screw Terminal	<b>M</b> = Momentary  <b>L</b> = Latching	<b>S</b> = Stainless Steel  <b>A</b> = Black Anodized Aluminum	<b>BL</b> <b>GN</b> <b>RD</b> <b>AM</b> <b>WH</b>  <b>Others</b> on request	<b>12</b> = 12VAC  Others Available on request

**Examples:**

**MPI005/D/28/L/S/BL/12** = 19mm Metal Push Button, Dot Illumination, 2.8mm Plug Terminal, Latching, Stainless Steel, Blue, 12 Volt

**Note:**

Power Symbol / Ring not available in black anodized aluminum

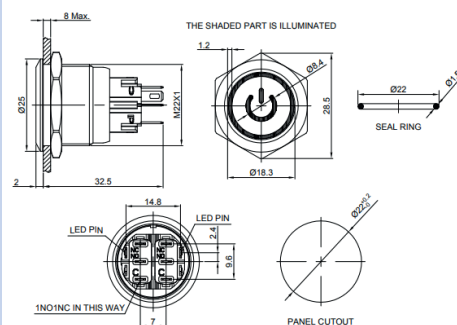
# MP22 Illuminated Vandal Resistant Switch

Power Symbol Illuminated vandal resistant switch



MP22XXPINRXXXXXX

- Available in Red, Green, Blue, Yellow, White
- LED voltages available: 6v, 12v, 24v, 110v, 220v
- Available in Stainless steel or Black coated Aluminium
- IP65
- SPDT and DPDT options available
- Can support Latching or Momentary action



## Power Symbol Illuminated

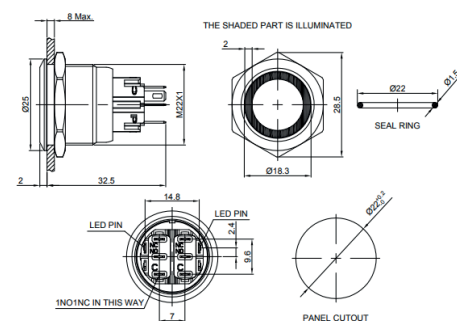
Series	Contact Structure	Operation	Illumination	Common Pin	LED Colour	LED Voltage	Shell Material	IP Rating
MP22	S - SPDT	L - Latching	RI - Ring Illuminated	NR - Not applicable	R - Red	006 - 6V	S - Stainless steel	5 - IP65
	D - DPDT	M - Momentary			G - Green	012 - 12V	A - Black Aluminium	
					Y - Yellow	024 - 24V		
					B - Blue	110 - 110V		
					W - White	220 - 220V		

Ring Illuminated vandal resistant switch



MP22XXRINRXXXXXX

- Available in Red, Green, Blue, Yellow, White
- LED voltages available: 6v, 12v, 24v, 110v, 220v
- Available in Stainless steel or Black coated Aluminium
- IP65
- SPDT and DPDT options available
- Can support Latching or Momentary action



## Ring Illuminated

Series	Contact Structure	Operation	Illumination	Common Pin	LED Colour	LED Voltage	Shell Material	IP Rating
MP22	S - SPDT	L - Latching	RI - Ring Illuminated	NR - Not applicable	R - Red	006 - 6V	S - Stainless steel	5 - IP65
	D - DPDT	M - Momentary			G - Green	012 - 12V	A - Black Aluminium	
					Y - Yellow	024 - 24V		
					B - Blue	110 - 110V		
					W - White	220 - 220V		

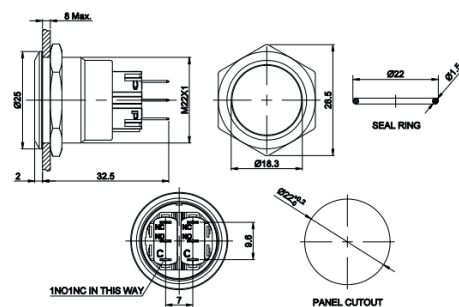
# MP22 Non Illuminated Vandal Resistant Switch

Non Illuminated vandal resistant switch



MP22XXNINRN000XX

- SPDT and DPDT options available
- Available in Stainless steel or Black coated Aluminium
- IP65
- Can support Latching or Momentary action



## Not Illuminated

Series	Contact Structure	Operation	Illumination	Common Pin	LED Colour	LED Voltage	Shell Material	IP Rating
MP22	S - SPDT	L - Latching	NI - Not Illuminated	NR - Not applicable	N - No LED	000 - No Resistor	S - Stainless steel	5 - IP65
	D - DPDT	M - Momentary					A - Black Aluminium	

## General Specifications

### Electrical

Switch Rating	Ui: 250V, Ith: 5A
Electrical Life	≥50,000 cycles
Initial Contact Resistance	≤50mΩ
Insulation Resistance	≥100MΩ(500VDC)
Power-Frequency Withstand Voltage	1,500V, RMS 50Hz, 1min
Terminal Type	Pin terminal (2.8X0.5mm)

### Mechanical

Mechanical Life	Momentary: ≥1,000,000 cycles, ≥Latching: 500,000 cycles
Torque	About 1.0N·m applied to nut
Operating Force	About 3N(1NO1NC), About 4N(2NO2NC)
Operating Travel	About 3mm
Front Panel IP Protection	IP65
IK Rating	IK09
Operating Temperature	-25°C~+55°C
Panel Mount Cutout	22mm
Max Panel Thickness	8mm

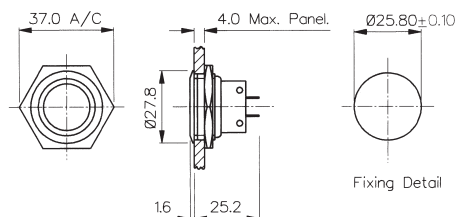
### Materials

Rohs Compliance	Yes
Contact Material	Silver Alloy
Button Material	Stainless Steel/PC
Body Material	Stainless Steel
Base Material	PA

## Front Panel Mounting


**MPB038**  
 Sealed to IP66

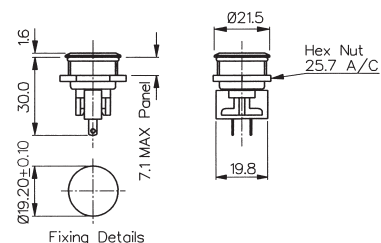
- Front Panel Sealed to IP66
- 28mm diameter
- S.P.C.O. Microswitch
- 5A, 250Vac



## Front Panel Mounting


**MPB031**  
 Sealed to IP66

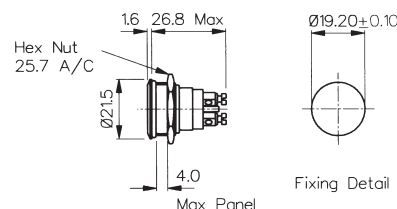
- Front Panel Sealed to IP66
- 21mm diameter
- S.P.C.O. Microswitch
- 5A, 250Vac



## Front Panel Mounting


**MPB037**  
 Sealed to IP68

- Front Panel Sealed to IP68
- 21.5mm diameter
- S.P. Push to Make
- 1A, 50Vac/dc



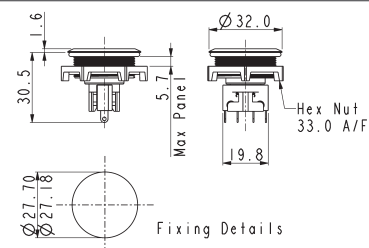
Specifications	MPB038	MPB031	MPB037
Terminations:	Solder Tags	Solder Tags	Screw Terminals
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P. Push to make Momentary action
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc	1A, 50Vac/dc
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ	>10 <sup>5</sup> MΩ
Dielectric Strength:	>2.0kVac	>2.0kVac	>1.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)	Protection Classification: IP68 EN60529-1:1992 + A2:2013. (Micro switch not sealed) (10m for 2 weeks)
Operations			
Mechanical:	1,000,000 (min)	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)	30,000 (min)
Operating Pressure:	12.5N (typ)	4.7N (typ)	7.5N (typ)
Rear Nut Fixing Torque:	1.13Nm	0.57Nm	0.57Nm
Materials			
Mouldings:	Glass Filled Nylon	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Tin Plated	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Brass	Brass	Brass
Contacts:	Fine Silver	Fine Silver	Brass, Silver Plated, Silver
Thread size:	1.0" x 26TPI	0.747" x 26TPI	0.747" x 26TPI
<b>RoHS</b>	Compliant	Compliant	Compliant

## Front Panel Mounting - Low Profile



MP0050

- Front Panel Sealed to IP68
- Flush button
- 32.0mm diameter
- S.P.C.O. switching
- Momentary action
- 5A, 250Vac

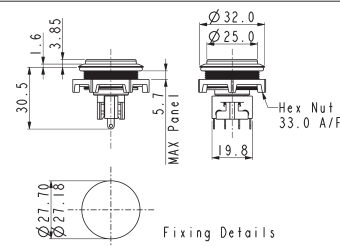


## Front Panel Mounting - Protruding Profile



MP0050/2

- Front Panel Sealed to IP68
- Protruding button
- 32.0mm diameter
- S.P.C.O. switching
- Momentary action
- 5A, 250Vac



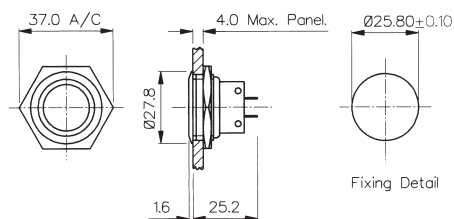
Specifications	MP0050	MP0050/2
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ
Dielectric Strength:	>2.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations		
Mechanical:	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)
Operating Pressure:	4.7Nm	4.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm
Materials		
Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Fine Silver	Fine Silver
Thread size:	M27 x 1.0-6H	M27 x 1.0-6H
RoHS	Compliant	Compliant

## Front Panel Mounting



MP0027/3

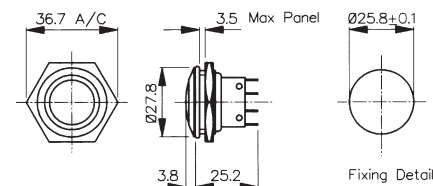
- 28mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250Vac



## Front Panel Mounting

MP0038/3  
Sealed to IP66

- Front Panel Sealed to IP66
- 28mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250Vac



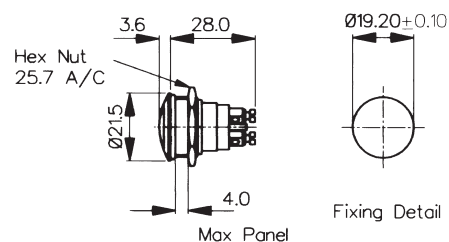
Specifications	MP0027/3	MP0038/3
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ
Dielectric Strength:	>2.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):		Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations		
Mechanical:	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm
Materials		
Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	0.747" x 26TPI
RoHS	Compliant	Compliant



## Front Panel Mounting


 MP0037/3  
 Sealed to IP68

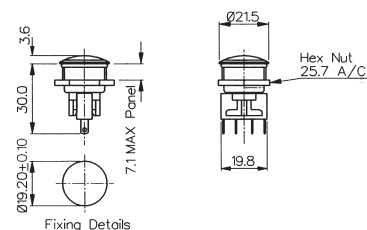
- Front Panel Sealed to IP68
- 21.5mm diameter
- Domed Profile
- S.P. Push to Make
- 1A, 50Vac/dc



## Front Panel Mounting


 MP0031/3  
 Sealed to IP66

- Front Panel Sealed to IP66
- 21.5mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250Vac



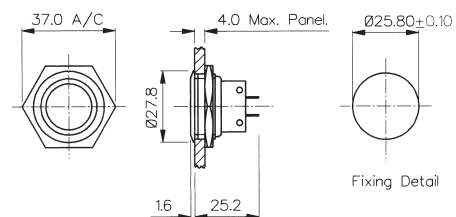
Specifications	MP0037/3	MP0031/3
Terminations:	Screw Terminals	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>5</sup> MΩ	>10 <sup>3</sup> MΩ
Dielectric Strength:	>1.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP68 EN60529-1:1992 + A2:2013. (Micro switch not sealed) (10m for 2 weeks)	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations		
Mechanical:	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	4.7N (typ)
Rear Nut Fixing Torque:	2.5Nm	0.57Nm
Materials		
Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver
Thread size:	0.747" x 26TPI	0.747" x 26TPI
RoHS	Compliant	Compliant

## Front Panel Mounting



MP0027/2

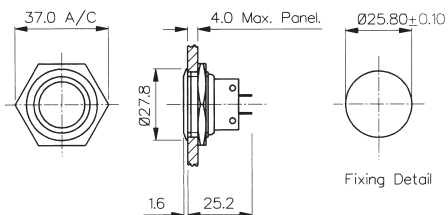
- 28mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250Vac



## Front Panel Mounting

MP0038/2  
Sealed to IP66

- Front Panel Sealed to IP66
- 28mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250Vac



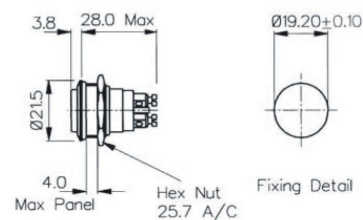
Specifications	MP0027/2	MP0038/2
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ
Dielectric Strength:	>2.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):		Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations		
Mechanical:	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm
Materials		
Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	1.0" x 26TPI
<b>RoHS</b>	Compliant	Compliant

## Front Panel Mounting



MP0037/2  
Sealed to IP68

- Front Panel Sealed to IP68
- 21.5mm diameter
- Prominent Button
- S.P. Push to Make
- 1A, 50Vac/dc

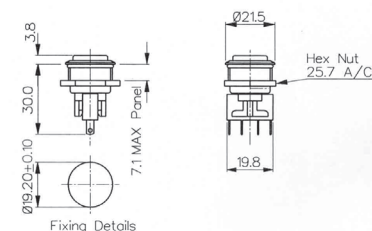


## Front Panel Mounting



MP0031/2  
Sealed to IP66

- Front Panel Sealed to IP66
- 21.5mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250Vac



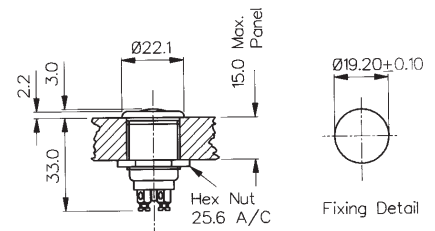
Specifications	MP0037/2	MP0031/2
Terminations:	Screw Terminals	Solder Tags
Switching:	S.P. Push to make Slow momentary action	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>5</sup> MΩ	>10 <sup>3</sup> MΩ
Dielectric Strength:	>1.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP68 EN60529-1:1992 + A2:2013. (Micro switch not sealed) (10m for 2 weeks)	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations		
Mechanical:	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	4.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm
Materials		
Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver
Thread size:	0.747" x 26TPI	0.747" x 26TPI
RoHS	Compliant	Compliant

Front Panel Mounting



MP0013  
MP0033

- Proud Fitting
- 22mm diameter
- S.P. Push to Make
- 1A, 50V
- Brass, Chrome Plated Body, Stainless Steel Button
- MP0033 Internally Sealed

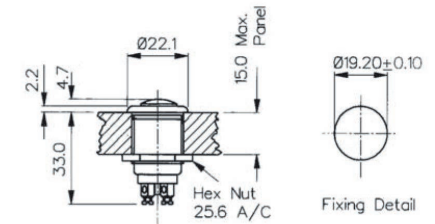


Front Panel Mounting



MP0013/2  
MP0033/2

- Prominent Button
- 22mm diameter
- S.P. Push to Make
- 1A, 50V
- Brass, Chrome Plated Body, Stainless Steel Button
- MP0033/2 Internally Sealed



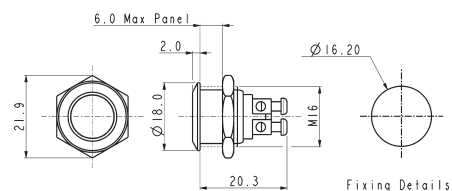
Specifications	MP0013, MP0033	MP0013/2, MP0033/2
Terminations:	Screw Terminals	Screw Terminals
Switching:	S.P. Push to make Slow momentary action	S.P. Push to make Slow momentary action
Max. Rating:	1A, 50Vac/dc	1A, 50Vac/dc
Contact Resistance:	<15mΩ	<15mΩ
Insulation Resistance:	>10 <sup>4</sup> MΩ	>10 <sup>4</sup> MΩ
Dielectric Strength:	>2.5kVac	>2.5kVac
Operating Temp. Range:	-20°C to +85°C	-20°C to +85°C
Sealing (Front of panel only):	MP0033 only - internally sealed against ingress of water and dust. (IP68 Internal Testing)	MP0033/2 only - internally sealed against ingress of water and dust. (IP68 Internal Testing)
Materials		
Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Silver Plated	Brass, Silver Plated
Switch Body & Button:	Body: Brass, Chrome Plated Button: Stainless Steel	Body: Brass, Chrome Plated Button: Stainless Steel
Contacts:	Copper, Silver Plated	Copper, Silver Plated
Thread Size:	0.747" x 26TPI	0.747" x 26TPI
RoHS	Compliant	Compliant

#### Flush Profile



MP0042/1

- 18mm bezel diameter
- 16mm panel hole
- S.P. Push to make
- Polished finish
- 2A, 36Vdc

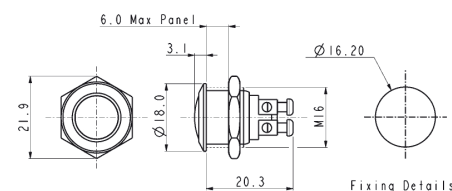


#### Domed Profile



MP0042/2

- 18mm bezel diameter
- 16mm panel hole
- S.P. Push to make
- Polished finish
- 2A, 36Vdc

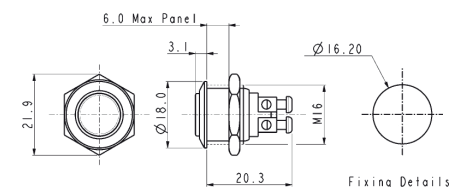


#### Prominent Button



MP0042/3

- 18mm bezel diameter
- 16mm panel hole
- S.P. Push to make
- Polished finish
- 2A, 36Vdc



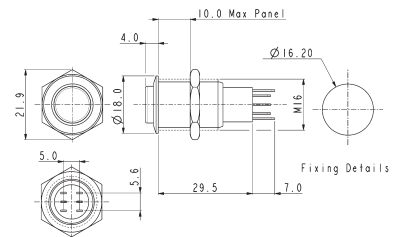
Specifications	MP0042/1	MP0042/2	MP0042/3
Terminations:	Screw Terminals	Screw Terminals	Screw Terminals
Switching:	S.P. Push to make	S.P. Push to make	S.P. Push to make
Max. Rating:	2A, 36Vdc	2A, 36Vdc	2A, 36Vdc
Contact Resistance:	50mΩ at 1A, 2V	50mΩ at 1A, 2V	50mΩ at 1A, 2V
Insulation Resistance:	>10 <sup>3</sup> MΩ @ 500Vdc	>10 <sup>3</sup> MΩ @ 500Vdc	>10 <sup>3</sup> MΩ @ 500Vdc
Dielectric Strength:	>2.0kVac	>2.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +55°C	-20°C to +55°C	-20°C to +55°C
Operations			
Mechanical:	1,000,000 (min)	1,000,000 (min)	1,000,000 (min)
Electrical:	100,000 (min)	100,000 (min)	100,000 (min)
Rear Nut Fixing Torque:	12Nm	12Nm	12Nm
Materials			
Mouldings:	Nylon	Nylon	Nylon
Tags/Terminations:	Brass, Silver Plated	Brass, Silver Plated	Brass, Silver Plated
Switch Body & Button:	Stainless Steel (Polished)	Stainless Steel (Polished)	Stainless Steel (Polished)
Contacts:	Silver	Silver	Silver
Thread size:	Gold Plated Brass version available	Gold Plated Brass version available	Gold Plated Brass version available
Sealing:	IP65	IP65	IP65
Impact Rating:	IK08	IK08	IK08
RoHS	Compliant	Compliant	Compliant

#### Low Profile



MP0045/1D

- 18mm bezel diameter
- 16mm fixing hole diameter
- D.P.C.O
- 1A, 110Vac & 0.5A, 220Vac
- 1A, 12Vdc & 1A, 24Vdc

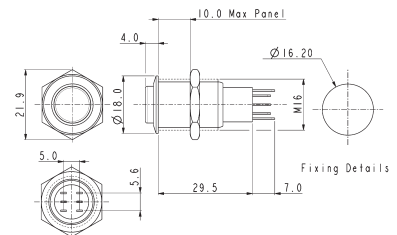


#### Prominent Button



MP0045/3D

- 18mm bezel diameter
- 16mm fixing hole diameter
- D.P.C.O
- 1A, 110Vac & 0.5A, 220Vac
- 1A, 12Vdc & 1A, 24Vdc



#### Specifications

##### MP0045/1D0NN000/Sealing

##### MP0045/3D0NN000/Sealing

Terminations:

Solder tags

Solder tags

Switching:

D.P.C.O Momentary Action

D.P.C.O Momentary Action

Sealing:

IP67 IP40

IP67 IP40

Part No.

/S BLANK

/S BLANK

Max. Rating:

1A, 110Vac & 0.5A, 220Vac  
1A, 12Vdc & 1A, 24Vdc

1A, 110Vac & 0.5A, 220Vac  
1A, 12Vdc & 1A, 24Vdc

Contact Resistance:

50mΩ max. @ 1A, 2V

50mΩ max. @ 1A, 2V

Insulation Resistance:

>10<sup>3</sup> MΩ @ 500Vdc

>10<sup>3</sup> MΩ @ 500Vdc

Dielectric Strength:

> 2.0kVac

> 2.0kVac

Operating Temp. Range:

-20°C to +55°C

-20°C to +55°C

Operations

Mechanical:

200,000 (min)

200,000 (min)

Electrical:

30,000 (min)

30,000 (min)

Rear Nut Fixing Torque:

12Nm

12Nm

Materials

Mouldings:

Nylon

Nylon

Tags/Terminations:

Brass, Silver Plated

Brass, Silver Plated

Switch Body & Button:

Stainless Steel

Stainless Steel

Contacts:

Silver

Silver

Variants:

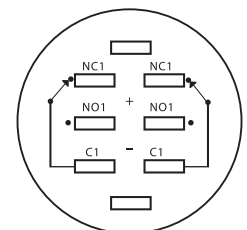
Nickel Plated Brass version available  
Details on request

Nickel Plated Brass version available  
Details on request

**RoHS**

Compliant

Compliant



Contact Layout

#### Soldering Instructions:

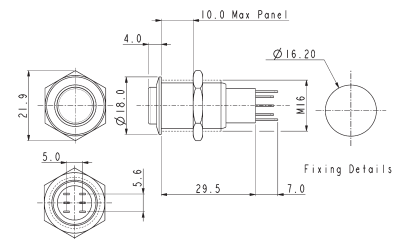
- Soldering time less than 3 seconds
- Do not push on the terminals
- Recommended cuspidal soldering iron. Temperature around 280°C

#### Low Profile



MP0045/1E

- 18mm bezel diameter
- 16mm fixing hole diameter
- D.P.C.O.
- 1A, 110Vac & 0.5A, 220Vac
- 1A, 12Vdc & 1A, 24Vdc

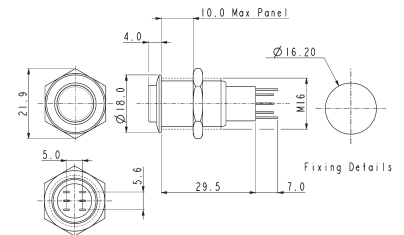


#### Prominent Button



MP0045/3E

- 18mm bezel diameter
- 16mm fixing hole diameter
- D.P.C.O.
- 1A, 110Vac & 0.5A, 220Vac
- 1A, 12Vdc & 1A, 24Vdc



#### Specifications

##### MP0045/1E0NN000/Sealing

##### MP0045/3E0NN000/Sealing

#### Terminations:

Solder Tags

Solder Tags

#### Switching:

D.P.C.O. - Latching Action

D.P.C.O. - Latching Action

#### Sealing:

IP67 IP40

IP67 IP40

#### Part No.

/S BLANK

/S BLANK

#### Max. Rating:

1A, 110Vac & 0.5A, 220Vac  
1A, 12Vdc & 1A, 24Vdc

1A, 110Vac & 0.5A, 220Vac  
1A, 12Vdc & 1A, 24Vdc

#### Contact Resistance:

50mΩ max. @ 1A, 2V

50mΩ max. @ 1A, 2V

#### Insulation Resistance:

>10<sup>3</sup> MΩ @ 500Vdc

>10<sup>3</sup> MΩ @ 500Vdc

#### Dielectric Strength:

>2.0kVac

>2.0kVac

#### Operating Temp. Range:

-20°C to +55°C

-20°C to +55°C

#### Operations

#### Mechanical:

200,000 (min)

200,000 (min)

#### Electrical:

30,000 (min)

30,000 (min)

#### Rear Nut Fixing Torque:

12Nm

12Nm

#### Materials

#### Mouldings:

Nylon

Nylon

#### Tags/Terminations:

Brass, Tin Plated

Brass, Tin Plated

#### Switch Body & Button:

Stainless Steel (Polished)

Stainless Steel (Polished)

#### Contacts:

Silver

Silver

#### Thread size:

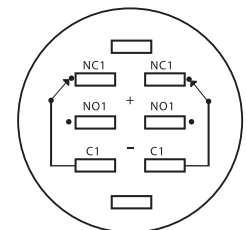
Nickel Plated Brass version  
Details on request

Nickel Plated Brass version  
Details on request

#### RoHS

Compliant

Compliant



Contact Layout

#### Soldering Instructions:

- Soldering time less than 3 seconds.
- Do not push on the terminals.
- Recommended cuspidal soldering iron. Temperature around 280°C.

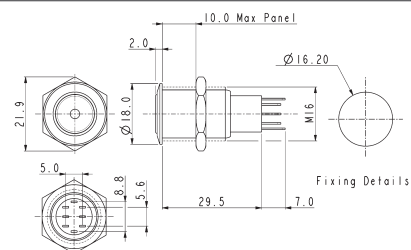


## Front Panel Mounting



MP0045/1D1

- Dot Illuminated
- 18mm bezel diameter
- D.P.C.O.
- 1A, 110Vac & 0.5A, 220Vac
- 1A, 12Vdc & 1A, 24Vdc
- Red, Green, Amber or Blue Illumination
- Separate LED Terminals

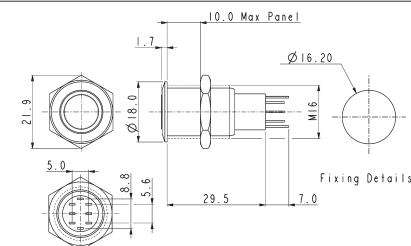


## Front Panel Mounting



MP0045/1D2

- Ring Illuminated
- 18mm bezel diameter
- D.P.C.O.
- 1A, 110Vac & 0.5A, 220Vac
- 1A, 12Vdc & 1A, 24Vdc
- Red, Green, Amber or Blue Illumination
- Separate LED Terminals

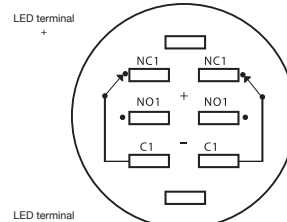


## Specifications

## MP0045/1D1/Colour/Voltage/Sealing

## MP0045/1D2/Colour/Voltage/Sealing

Terminations:	Solder Tags				Solder Tags			
Illumination:	Dot				Ring			
Switching:	D.P.C.O. Momentary Action				D.P.C.O. Momentary Action			
Sealing:	IP67 IP40				IP67 IP40			
Part No.	/S BLANK				/S BLANK			
Max. Switch Rating:	1A, 110Vac & 0.5A, 220Vac 1A, 12Vdc & 1A, 24Vdc				1A, 110Vac & 0.5A, 220Vac 1A, 12Vdc & 1A, 24Vdc			
LEDs								
Colours	Red	Green	Amber	Blue	Red	Green	Amber	Blue
Part No.	/RD	/GN	/AM	/BL	/RD	/GN	/AM	/BL
Voltage	12Vdc	220Vdc			12Vdc	220Vdc		
Part No.	/012	/220			/012	/220		
Contact Resistance:	50mΩ max. @ 1A, 2Vdc				50mΩ max. @ 1A, 2Vdc			
Insulation Resistance:	>10 <sup>3</sup> MΩ @ 500Vac				>10 <sup>3</sup> MΩ @ 500Vac			
Dielectric Strength:	>2.0kVac				>2.0kVac			
Operating Temp. Range:	-20°C to +55°C				-20°C to +55°C			
Operations								
Mechanical:	200,000 (min)				200,000 (min)			
Electrical:	30,000 (min)				30,000 (min)			
Rear Nut Fixing Torque:	12Nm				12Nm			
Materials								
Mouldings:	Nylon				Nylon			
Tags:	Brass, Silver Plated				Brass, Silver Plated			
Switch Body & Button:	Stainless Steel (Polished)				Stainless Steel (Polished)			
Variants	Prominent Button, details on request				Prominent Button, details on request			
RoHS	Compliant				Compliant			



Contact Layout

## Soldering Instructions:

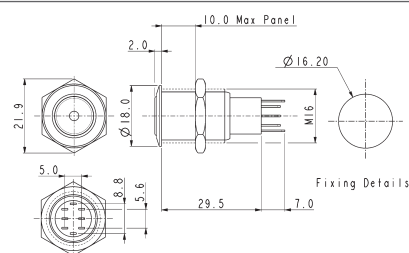
- Soldering time less than 3 seconds.
- Do not push on the terminals.
- Recommended cuspidal soldering iron. Temperature around 280°C.

## Front Panel Mounting



MP0045/1E1

- Dot Illuminated
- 18mm bezel diameter
- D.P.C.O.
- 1A, 110Vac & 0.5A, 220Vac
- 1A, 12Vdc & 1A, 24Vdc
- Red, Green, Amber or Blue Illumination
- Separate LED Terminals

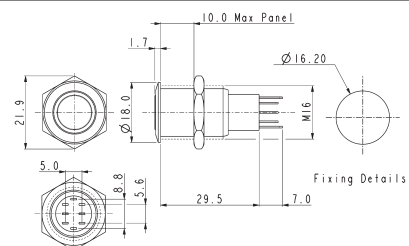


## Front Panel Mounting



MP0045/1E2

- Ring Illuminated
- 18mm bezel diameter
- D.P.C.O.
- 1A, 110Vac & 0.5A, 220Vac
- 1A, 12Vdc & 1A, 24Vdc
- Red, Green, Amber or Blue Illumination
- Separate LED Terminals



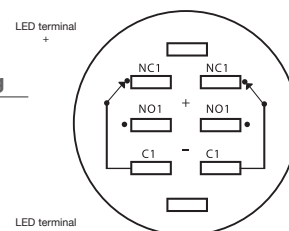
## Specifications

## MP0045/1E1/Colour/Voltage/Sealing

Terminations:	Solder Tags			
Illumination:	Dot			
Switching:	D.P.C.O. Latching Action			
Sealing:	IP67	IP40		
Part No.	/S	BLANK		
Max. Switch Rating:	1A, 110Vac & 0.5A, 220Vac 1A, 12Vdc & 1A, 24Vdc			
LEDs				
Colours	Red	Green	Amber	Blue
Part No.	/RD	/GN	/AM	/BL
Voltage	12Vdc	220Vdc		
Part No.	/012	/220		
Contact Resistance:	50mΩ max. @ 1A, 2Vdc			
Insulation Resistance:	>10 <sup>3</sup> MΩ @ 500Vac			
Dielectric Strength:	>2.0kVac			
Operating Temp. Range:	-20°C to +55°C			
Operations				
Mechanical:	200,000 (min)			
Electrical:	30,000 (min)			
Rear Nut Fixing Torque:	12Nm			
Materials				
Mouldings:	Nylon			
Tags:	Brass, Silver Plated			
Switch Body & Button:	Stainless Steel (Polished)			
Variants	Prominent Button, details on request			
RoHS	Compliant			

## MP0045/1E2/Colour/Voltage/Sealing

Solder Tags			
Ring			
D.P.C.O. Latching Action			
IP67	IP40		
/S	BLANK		
1A, 110Vac & 0.5A, 220Vac			
1A, 12Vdc & 1A, 24Vdc			
Red	Green	Amber	Blue
/RD	/GN	/AM	/BL
12Vdc	220Vdc		
/012	/220		
50mΩ max. @ 1A, 2Vdc			
>10 <sup>3</sup> MΩ @ 500Vac			
>2.0kVac			
-20°C to +55°C			
200,000 (min)			
30,000 (min)			
12Nm			
Nylon			
Brass, Silver Plated			
Stainless Steel (Polished)			
Prominent Button, details on request			
Compliant			



Contact Layout

## Soldering Instructions:

- Soldering time less than 3 seconds.
- Do not push on the terminals.
- Recommended cuspidal soldering iron. Temperature around 280°C.

12mm Switches  
**Miniature Stainless Steel Vandal Resistant**  
 Prominent Button / Flush Profile



MAV0120

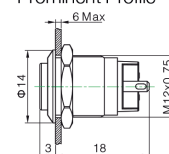


MAV0120/1

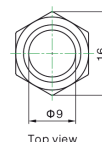
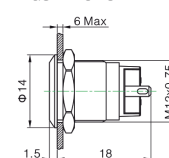
MAV0120/3

- Prominent and Flush Profile
- 12mm Diameter
- 2A, 36 dc
- IP67 (Front of Panel Only)

Prominent Profile



Flush Profile



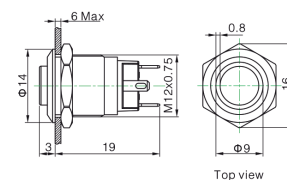
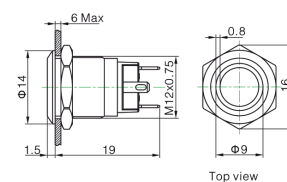
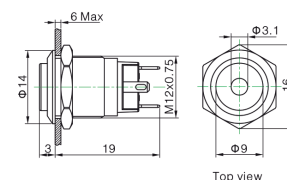
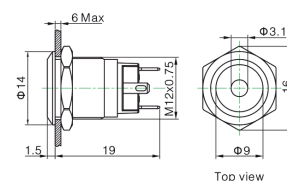
Specification	MAV0120/1	MAV0120/3
Terminations:	P - Solder Tabs	P - Solder Tabs
Switching:	S.P. Push to make	S.P. Push to make
Max Rating:	2A, 36Vdc	2A, 36Vdc
Contact Resistance:	≥50MΩ	≥50MΩ
Insulation Resistance:	≥1000MΩ	≥1000MΩ
Dielectric Strength:	1500V, AC 50Hz, 5 Secs	1500V, AC 50Hz, 5 Secs
Operating Temp Range:	*-25°C ~ +55°C	*-25°C ~ +55°C
Operations		
Mechanical:	500,000 (min)	500,000 (min)
Electrical:	200,000 (min)	200,000 (min)
Sealing (Front of Panel Only)	IP67	IP67
Shock Resistance	IK08	IK08
Rear Nut Fixing Torque:	0.6Nm	0.6Nm
Materials		
Mouldings:	PA	PA
Tags/Terminations:	Brass, Silver Plated	Brass, Silver Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Silver Alloy	Silver Alloy
Thread size:	M12x0.75	M12x0.75
RoHS	Compliant	Compliant

MAV0120



MAV0120

- Dot and Ring Illumination
- Prominent and Flush Profile
- 12mm Diameter
- 2A, 36 dc
- Bright daylight LEDs
- IP67 (Front of Panel Only)

**Specification****MAV0120**

Terminations:	P - Solder Tabs				
Switching:	S.P. Push to make				
Max Rating:	2A, 36Vdc				
Profile:	Prominent /3 Flush /1				
Illumination Type	/1	Dot			
	/2	Ring			
LED Ratings					
Part No.					
Colours	/RD	/GN	/BL	/OR	/AM
Luminous Intensity	Red	Green	Blue	Orange	Yellow
Forward Voltage	1.8V	2.8V	2.8V	1.8V	1.8V
Forward Current					
Moulding Current	15mA	15mA	15mA	15mA	15mA
Illumination Voltage	/no suffix - No resistor fitted. An Appropriate resistor must be series connected by the user. Voltages as above				
	/12	12V			
	/24	24V			
Contact Resistance:	≥50MΩ				
Insulation Resistance:	≥1000MΩ				
Dielectric Strength:	1500V, AC 50Hz, 5 Secs				
Operating Temp. Range:	*-25°C ~ +55°C				
Operations					
Mechanical:	500,000 (min)				
Electrical:	200,000 (min)				
Sealing (Front of Panel Only)	IP67				
Shock Resistance	IK08				
Rear Nut Fixing Torque:	0.6Nm				
Materials					
Mouldings:	PA				
Tags/Terminations:	Brass, Silver Plated				
Switch Body & Button:	Stainless Steel				
Contacts:	Silver Alloy				
Thread size:	M12x0.75				
RoHS	Compliant				

12mm Switches  
**Miniature Domed Metal Vandal Resistant**  
 None Illuminated - Metal Dome

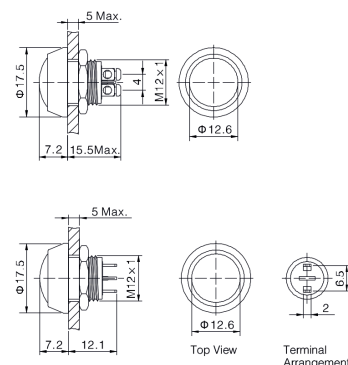


MMP0120



MMP0120

- Raised Domed Profile
- 12mm Diameter
- 2A, 36Vac
- IP65 or IP67 (Front of Panel Only)



Specification	MMP0120/S	MMP0120/N
Terminations:	P - Solder Tabs S - Screw Terminal	P - Solder Tabs S - Screw Terminal
Switching:	S.P. Push to make	S.P. Push to make
Max Rating:	2A, 36Vdc	2A, 36Vdc
Contact Resistance:	$\geq 50M\Omega$	$\geq 50M\Omega$
Insulation Resistance:	$\geq 1000M\Omega$	$\geq 1000M\Omega$
Dielectric Strength:	1500V, AC 50Hz, 5 Secs	1500V, AC 50Hz, 5 Secs
Operating Temp Range:	*-25°C ~ +55°C	*-25°C ~ +55°C
Operations		
Mechanical:	500,000 (min)	500,000 (min)
Electrical:	200,000 (min)	200,000 (min)
Sealing (Front of Panel Only)	IP65 or IP67	IP65 or IP67
Shock Resistance	IK08	IK08
Rear Nut Fixing Torque:	0.3Nm	0.3Nm
Materials		
Mouldings:	PBT	PBT
Tags/Terminations:	Brass, Gold Plated	Brass, Gold Plated
Switch Body & Button:	/SS Stainless Steel	/N - Nickel Plated Brass
Contacts:	Silver Alloy	Silver Alloy
Thread size:	M12x1	M12x1
RoHS	Compliant	Compliant

12mm Switches  
**Miniature Domed PBT Pushbutton**  
 Non Illuminated - PBT

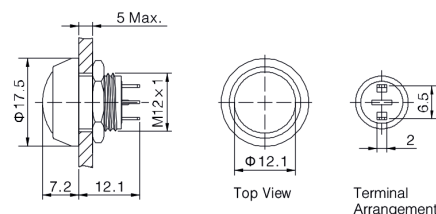
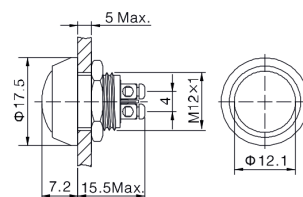


MMP0120/A



MMP0120/A

- Raised Domed Profile
- PBT Material
- 12mm Diameter
- 2A, 36Vac
- IP65 or IP67 (Front of Panel Only)



## Specification

## MMP0120/A

Terminations:	P - Solder Tabs S - Screw Terminal
Switching:	S.P. Push to make
Max Rating:	2A, 36Vdc
Contact Resistance:	$\geq 50\text{M}\Omega$
Insulation Resistance:	$\geq 1000\text{M}\Omega$
Dielectric Strength:	1500V, AC 50Hz, 5 Secs
Operating Temp Range:	*-25°C ~ +55°C
Operations	
Mechanical:	1,000,000 (min)
Electrical:	200,000 (min)
Sealing (Front of Panel Only)	IP65 or IP67
Shock Resistance	IK08
Rear Nut Fixing Torque:	0.3Nm
Materials	
Mouldings:	PBT
Tags/Terminations:	Brass, Gold Plated
Switch Body	/A      Black Anodised
Switch Button:	/NB      Nickel Plated Brass /RD      RED PBT /GN      GREEN PBT /BL      BLUE PBT /BK      BLACK PBT
Contacts:	Silver Alloy
Thread size:	M12x1
RoHS	Compliant

12mm Switches  
**Miniature Domed Illuminated Pushbutton**  
 Stainless Steel and PBT

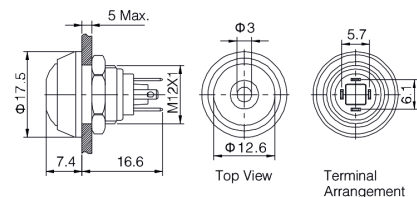


MMPI0120



MMPI0120

- Raised Domed Profile
- Dot Illumination
- Bright daylight LEDs
- 12mm Diameter
- 2A, 36Vac
- IP65 (Front of Panel Only)



## Specification

## MMPI0120

Terminations:	P - Solder Tabs				
Switching:	S.P. Push to make				
Max Rating:	2A, 36Vdc				
LED Ratings					
Part No.	SS-RD	SS-GN	NN-RD	ABK-RD	AG-RD
Colours	Red	Green	Red	Red	Red
Luminous Intensity					
Forward Voltage	1.8V	2.8V	1.8V	1.8V	1.8V
Forward Current					
Moulding Current	15mA	15mA	15mA	15mA	15mA
Illumination Voltage	/no suffix - No resistor fitted. An Appropriate resistor must be series connected by the user. Voltages as above				
	/12				
Contact Resistance:	≥50MΩ				
Insulation Resistance:	≥1000MΩ				
Dielectric Strength:	1500V, AC 50Hz, 5 Secs				
Operating Temp. Range:	*-25°C ~ +55°C				
Operations					
Mechanical:	1,000,000 (min)				
Electrical:	200,000 (min)				
Sealing (Front of Panel Only)	IP65				
Shock Resistance	IK08				
Rear Nut Fixing Torque:	0.3Nm				
Materials					
Mouldings:	PBT				
Tags/Terminations:	Brass, Gold Plated				
Switch Body & Button:	Stainless Steel	Stainless Steel	Nickel Plated Brass	Black Anodized Body, Black PBT Button	Black Anodized Body, Green PBT Button
Contacts:	Silver Alloy				
Thread size:	M12x1				
RoHS	Compliant				



#### 12mm Miniature Vandal Resistant Stainless Steel Switch

<b>MAV0120</b>	<b>/</b>	<b>X</b>	<b>/</b>	<b>X</b>	<b>/</b>	<b>X</b>	<b>/</b>	<b>X</b>	<b>/</b>	<b>X</b>
<b>Series</b> MAV0120		<b>Button</b> 1 = Flush 3 = Prominent		<b>Switching Type</b> D = Momentary		<b>Type of Illumination</b> Blank = None 1 = Dot 2 = Ring		<b>Illumination Colour</b> Blank = None RD = RED GN = GREEN BL = BLUE AM = AMBER/YELLOW OR = ORANGE		<b>Lamp Voltage</b> Blank = None 012 = 12V 024 = 24V

#### Examples:

MAV0120/3D = 12mm Prominent Actuator, Momentary, Non Illuminated  
 MAV0120/3D1BL024 = 12mm Prominent Actuator, Momentary, Blue Dot Illuminated, 24V  
 MAV0120/3D2GN012 = 12mm Prominent Actuator, Momentary, Green Ring Illuminated, 12V

#### 12mm Miniature Metal/Plastic Domed Pushbutton Switch

MMPXXX / X / X / X / X / X / X						
Series	Body Material	Button Material & Colour	Sealing	Illumination Colour	Lamp Voltage	Termination
MMP0120 = Non Illuminated	S = Stainless Steel N = Nickel Plated Brass A = Black Anodized	SS = Stainless Steel NB = Nickel Plated Brass RD = RED PBT GN = GREEN PBT BL = BLUE PBT BK = BLACK PBT	Blank = IP65 67 = IP67 IP67 (non-illuminated only)	Blank = None RD = RED GN = GREEN BL = BLUE AM = AMBER/YELLOW OR = ORANGE	Blank = None 012 = 12V 024 = 24V Other voltages require external resistor	S = Screw Terminals P= Solder Terminals (2.0mm x 0.5mm)
MMPI0120 = Illuminated						

#### Examples:

MMP0120/SSSS = 12mm, Non Illuminated, All Stainless Steel, IP65, Screw Terminals  
 MMP0120/ARD67/S = 12mm, Non Illuminated, Black anodized body, Red PBT button, IP67, screw terminals  
 MMPI0120/NNBRD012P = 12mm, Illuminated, All Nickel Plated Brass with 12V Red Dot illumination, IP65, Plug Terminals

Bulgin's comprehensive range of [push-button switches](#) offers versatile solutions for a wide array of design needs. Featuring industry-standard mounting diameters—including 12mm, 16mm, 19mm, 22mm, 25mm, and 27mm cut-outs—and available with IP-rated sealing options, these switches are designed for reliable performance in diverse environments.

With the inclusion of Arcoelectric's switch range, we now offer an even greater selection of push-button switches, expanding your options for finding the perfect component for your project.

### Features:

- [Compact Design Options](#) of miniature, round, and rectangular push-button switches, perfect for applications where space is limited.
- [High Power Handling](#); high ratings up to 16A, 250V AC, with additional options like 12(12)A, 250V AC.
- [Versatile Switching Actions](#); offering latching and momentary actions. Latching switches provide a stable, maintained connection, while momentary switches offer temporary activation.
- [Customizable Actuators](#); a variety of actuators, with custom options available to ensure a perfect fit for unique design requirements.
- [Adaptable Mounting Styles](#); both square and round mounting styles, providing the versatility to integrate these switches seamlessly into different design layouts.

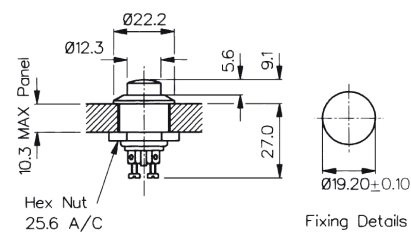


Front Panel Mounting



MP0012/Col

- 22mm diameter
- Prominent Button
- S.P. Push to Make
- Screw Terminals
- Brass, Chrome Plated Body, Glass Filled Nylon Button

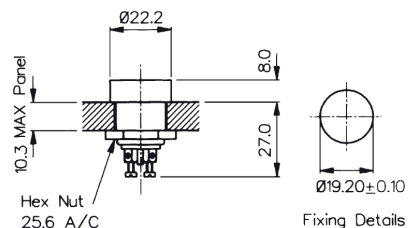


Front Panel Mounting



MP0012/1/Col

- 22mm diameter
- Recessed Button
- S.P. Push to Make
- Screw Terminals
- Brass, Chrome Plated Body, Glass Filled Nylon Button

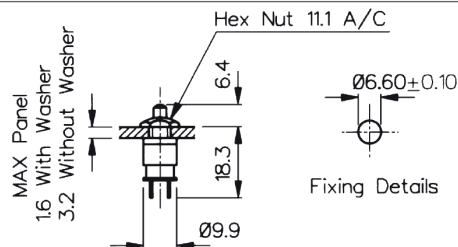


Rear Panel Mounting



MP0016

- S.P. Push to Make
- Solder Tags
- 1A, 28Vac/dc
- Brass Nickel Plated Body, Glass Filled Nylon Button



Specifications	MP0012/Colour	MP0012/1/Colour	MP0016/Colour
Terminations:	Screw Terminals	Screw Terminals	Solder Tags
Switching:	S.P. Push to Make Slow Momentary Action	S.P. Push to Make Slow Momentary Action	S.P. Push to Make Slow Momentary Action
Max. Rating:	0.25A. 250Vac, 1A. 110Vac, 2A. 12Vac/dc	0.25A. 250Vac, 1A. 110Vac, 2A. 12Vac/dc	1A 28Vac/dc (non-inductive)
Contact Resistance:	<15mΩ	<15mΩ	<15mΩ
Insulation Resistance:	>10 <sup>4</sup> MΩ	>10 <sup>4</sup> MΩ	>10 <sup>4</sup> MΩ
Dielectric Strength:	>2.5kVac	>2.5kVac	>2.0kVac
Operating Temp. Range:	-20°C to +85°C	-20°C to +85°C	-20°C to +85°C
Operation Pressure (typ):	9.18 newtons	9.18 newtons	6.22 newtons
Materials			
Moulding:	Glass Filled Nylon Brass,	Glass Filled Nylon Brass,	Glass Filled Nylon Brass,
Body:	Brass, Chrome Plated	Brass, Chrome Plated	Brass, Chrome Plated
Contacts/Terms:	Brass, Silver Plated	Brass, Silver Plated	Brass, Silver Plated
Variant	Button Colour: Standard - Black, /RD (Red)	Button Colour: Standard - Black, /RD (Red)	Button Colour: Standard - Black, /RD (Red)
RoHS	Compliant	Compliant	Compliant

# 8300 Push Button Range

8(8)A 250Vac & 12(12)A 250Vac



## Key Features

- Miniature push button
- 8A Inductive current rating
- Ratings up to 12(12)A, 250V ac (H suffix)
- Illuminated and nonilluminated
- Single and double Contact
- Latching and momentary
- Slotted actuator for custom buttons
- Industry standard panel cutout
- Panel cut out: 19.3 x 12.9




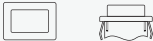
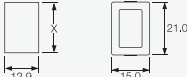




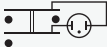






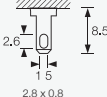




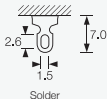
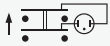



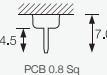


## Approvals and specifications

12 A GP, 250 Vac, T85  
13 A GP, 250 Vac, T85  
1 hp, 250 Vac, T85, 6E3/1E4

8350, 8351, 8353, 8354  
12A 250Vac DP, 250Vac 1hp, 125Vac 1/2hp

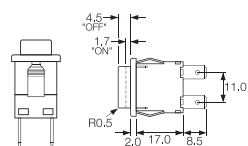
8300, 8301, 8303, 8304  
13A 250Vac SP, 250Vac 1hp, 125Vac 1/2hp

In house test:  
10(10)A 250Vac—Indicative rating only  
3mm contact gap.

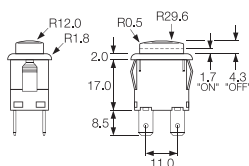
Terminal	Function	Actuator	Body Code	Body Colour								
<div>C</div> <div></div>	<div><div>Approvals &amp; ratings vary with function Single Contact switches use terminals 1 &amp; 2 (&amp; 3)</div></div> <div><b>8300</b> Single Contact ON - OFF</div> <div></div>	<div><b>A</b> Standard actuator</div> <div></div>	<div>Panel cut-out **    Bezel</div> <div><b>B</b> Standard body</div> <div></div>	<div><b>B</b> Black</div> <div><b>W</b> White</div>								
<div>H</div> <div></div>	<div><b>8301</b> Single Contact ON - OFF (momentary ON)</div> <div></div>	<div><b>H</b> Slotted for custom caps</div> <div></div>										
<div>A</div> <div><div>As "H" but right angle 4.8 x 0.8</div></div>	<div><b>8303</b> Single Contact ON - OFF With Light</div> <div></div>	<div>Slots for snap-in buttons</div> <div></div>	<div><b>E</b> Softline style body with radiused bezel</div> <div></div>									
	<div><b>8304</b> Single Contact ON - OFF (momentary ON) with light</div> <div></div>	<div><b>C</b> Square actuator</div> <div></div>	<div>Cut-outs must be punched in the direction of insertion</div>									
	<div><b>8350</b> Double Contact ON - OFF</div> <div></div>	<div><b>E</b> Radiused actuator</div> <div></div>	<div>Dimensions for snap-in fixing</div> <table><tr><td>Panel thickness</td><td>Dimension X</td></tr><tr><td>0.75-1.24</td><td>19.1/19.2</td></tr><tr><td>1.25-1.99</td><td>19.3/19.4</td></tr><tr><td>2.00-3.00</td><td>19.7/19.8</td></tr></table>	Panel thickness	Dimension X	0.75-1.24	19.1/19.2	1.25-1.99	19.3/19.4	2.00-3.00	19.7/19.8	
Panel thickness	Dimension X											
0.75-1.24	19.1/19.2											
1.25-1.99	19.3/19.4											
2.00-3.00	19.7/19.8											
<div>K</div> <div></div>	<div><b>8351</b> Double Contact ON - OFF (momentary ON)</div> <div></div>	<div><b>F</b> Small round actuator</div> <div></div>	<div>X and V PCB terminals. Additional dummy terminals may be supplied for extra support.</div>									
	<div><b>8353</b> Double Contact ON - OFF With light</div> <div></div>	<div><b>J</b> Smooth curved actuator</div> <div></div>										
<div>T</div> <div></div>	<div><b>8354</b> Double Contact ON - OFF (momentary ON) with light</div> <div></div>	<div><b>M</b></div> <div></div>										
	<div><b>8355</b> Single Contact ON - OFF Isolated light - switched C, E &amp; M actuators only</div> <div></div>	<div><b>D</b> Large round actuator</div> <div></div>										
<div>X</div> <div></div>	<div><b>8356</b> Single Contact ON - OFF Isolated light - unswitched C, E &amp; M actuators only</div> <div></div>	<div>All actuators except H available lit</div>										
<div>V</div> <div></div> <div>Dual Plug PCB (Call sales for mounting dims)</div>												

## Dimensions

Actuator A  
Body B



Actuator J  
Body E



## Examples



H8350AB ---  
T8350AB ---




H8353JE ---  
T8353JE ---



H8353EB ---  
T8353EB ---



H8353CB ---  
T8353CB ---

Actuator Colour	Lamp Voltage	Legend	Legend Colour	Options
LIT				
<b>A</b> Amber	— None			<a href="#">H</a> 12(12)A 250Vac switch rating  <a href="#">Finish</a> Matt finish standard except on J and D actuators which are gloss  <a href="#">Colour</a> Call sales for custom colours A full range is available for large orders  <a href="#">Legend printing</a> Select from the examples or call sales for custom legends.  <a href="#">Special buttons</a> Some of the many options are shown Call sales for the full range  <a href="#">L167 Protective cover</a>    Snaps on to switch bodies fitted with "A" or "J" style actuators, this reduces panel thickness by 0.8mm  <a href="#">BioCote Antimicrobial Additive</a> Moulded components have antimicrobial properties using BioCote silver ion technology.
<b>C</b> Clear	<b>2</b> 125V Neon			
<b>G</b> Green	<b>3</b> 250V Neon			
<b>R</b> Red	<b>7</b> 12V Filament			
UNLIT	<b>8</b> 24V Filament			
<b>B</b> Black				
<b>R</b> Red				
<b>W</b> White				

# 8200 Push Button Range

8(8)A 250Vac & 12(12)A 250Vac











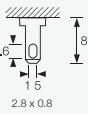
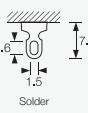
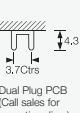








### Key Features

- Miniature push button
- 8A Inductive current rating
- Ratings up to 12(12)A, 250V ac (H suffix)
- Without button
- Sub panel mount
- Push on, solder or PCB terminals
- Latching and momentary

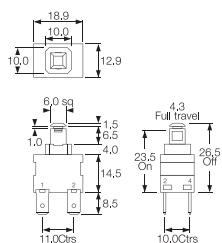
### Approvals and specifications

- 12 A GP, 250 Vac, T85
- 13 A GP, 250 Vac, T85
- 1 hp, 250 Vac, T85, 6E3/1E4
- 12A 250Vac
- 250Vac 1hp, 125Vac 1/2hp
- 3mm contact gap.

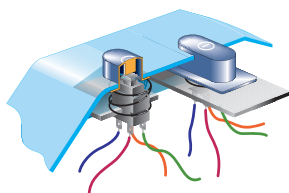
Terminal	Function	Actuator	Body Code
<p><b>C</b></p> 	<p>1 2 3 4</p> <p>Approvals &amp; ratings vary with function Single Contact switches use terminals 1 &amp; 2 (&amp; 3)</p> <p><b>8200</b> Single Contact ON - OFF</p> 	<p><b>A</b></p> <p>Standard actuator for snap-on custom adaptors</p> 	<p><b>A</b></p> <p>Standard body</p> 
<p><b>H</b></p>  <p><b>A</b></p> 	<p><b>8201</b> Single Contact ON - OFF (momentary ON)</p> 	<p><b>B</b></p> <p>Flat top actuator</p>  <p><b>C</b></p> <p>Curved top actuator</p> 	<p><b>C</b></p> <p>As standard body but with side support peg for use with M PCB terminals</p> 
<p><b>K</b></p>  <p><b>T</b></p>  <p><b>V</b></p> 	<p><b>8250</b> Double Contact ON - OFF</p> 	<p>Examples of possible actuation methods</p> <p>Using a Snap on adaptor</p>  <p>Using a Hinged Actuator</p> 	<p>X and V PCB terminals. Additional dummy terminals may be supplied for extra support.</p> 
<p><b>X</b></p> 	<p><b>8251</b> Double Contact ON - OFF (momentary ON)</p> 		

## Dimensions

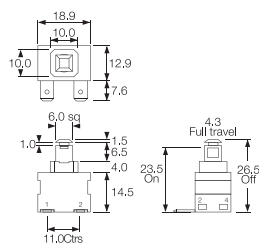
'A' body with 'H' 4.8 terminals



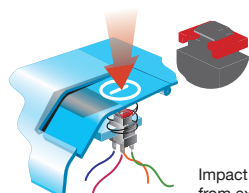
Example of possible mounting styles



'A' body with 'A' right angle 4.8 terminals

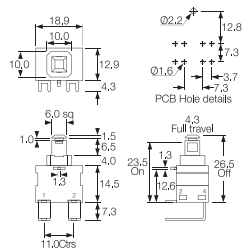


Alternative Actuator



Impact washer resists damage from excessive operator force

'C' body with 'M' right angle PCB terminals



## Examples



C8250AA ---  
with impact  
washer M1226



X8201AA ---



K8200AA ---



A8200AA ---



M8200AC ---



Example of M8200AC

# 7000 Push Button Range

16A 250Vac



## Key Features

- Round and rectangular push button switches
- Ratings up to 16A, 250V ac
- Latching and momentary
- Illuminated & non-illuminated
- Matching indicators
- Low profile version
- Panel cut outs: 25.0 dia 27.2 x 22.3

## Approvals and specifications

- CE 16(4)A 250Vac T85/55  
8(8)A 250Vac T85/55 (pending)
- UL CSA 16A Non Ind, 250Vac 1hp, 125Vac 1/2hp  
UL 65°C, file no. E45221
- 3mm contact gap.

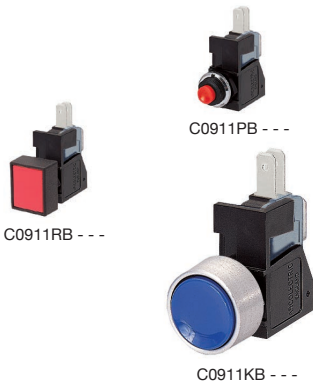
Terminal	Function	Actuator	Body Code
<p><b>C</b></p> <p>6.3 x 0.8</p> <p>9.1</p>	<p>Approvals &amp; ratings vary with function Single Contact switches use terminals 1 &amp; 2 (&amp; 3)</p> <p><b>7000</b> Single Contact ON - OFF</p> <p><b>7001</b> Single Contact (momentary) ON - OFF</p> <p><b>7003</b> Single Contact (with light) ON - OFF</p> <p><b>7004</b> Single Contact (momentary) with light ON - OFF</p> <p><b>7050</b> Double Contact ON - OFF</p> <p><b>7051</b> Double Contact with light ON - OFF</p> <p><b>7053</b> Double Contact with light ON - OFF</p> <p><b>7054</b> Double Contact (momentary ON) with light ON - OFF</p> <p><b>7030</b> Indicator UL E63363 CSA LR29381</p>	<p><b>A</b> Round actuator shown in F body</p> <p><b>A</b> Round actuator shown in G body</p> <p><b>B</b> Round actuator - medium shown in F body</p> <p><b>C</b> Round actuator - long shown in F body</p> <p><b>D</b> Round actuator - sub panel mount</p> <p><b>S</b> Rectangular actuator Shown in "A" body N/A for 7030</p>	<p>Panel cut-outs</p> <p><b>F H G</b> Body types fit either cut-out</p> <p><b>A</b></p> <p>27.2 27.3</p> <p>22.3/22.4</p> <p>Cut-outs must be punched in the direction of insertion</p>





# 0911 Push Button Switches

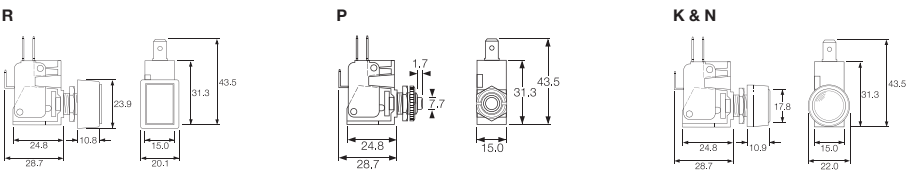
0.5A 250Vac



### Key Features

- Snap action switches
- Ratings up to 16A, 250Vac
- Round and rectangular buttons

### Dimensions



Terminal	Function	Actuator	Body Code	Options
	<b>0911</b> (momentary) ON - ON 	<b>R</b> Rectangular bezel  <b>P</b> Short  <b>K</b> with satin chrome bezel  <b>N</b> with nylon bezel 	 Panel Cut-out Panel thickness Both nuts 2.5mm No backnut 4.0mm	Call factory for custom colours



### Key Features

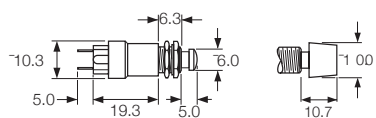
- ⬡ Self wiping contacts
- ⬡ Slow make & break
- ⬡ Momentary action
- ⬡ Choice of switch circuits
- ⬡ Choice of actuators

### Approvals and specifications

In house test:  
0.5A 250Vac T85 — Indicative rating only

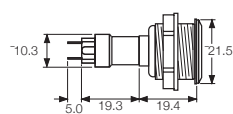
### Dimensions

Dimensions (mm) Nylon S and L actuators

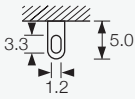






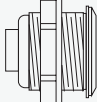
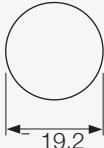




Neck thread - 40 TPI Whit. Actuator travel - 2.5 max

Stainless steel V actuator (IP66)



Neck thread - 26 TPI Whit. Actuator travel - 2.5 max

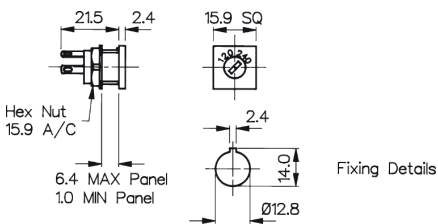
Terminal	Function	Actuator	Body Code	Options
<b>T</b>  Solder	<b>0916</b>  Black base SP ON - OFF (momentary)	<b>S</b> Small Actuator 	 Panel Cut-out (L & S Actuators)  Panel thickness Both nuts - 2.5mm No Backnut - 4.0	Finish  Gloss finish for L and S actuators.
	<b>0917</b> 50V only  Brown base SP ON - OFF (momentary 1 side)	<b>L</b> Large Actuator 	Panel Cut-out (L & S Actuators)  Panel thickness Both nuts - 2.5mm No Backnut - 4.0	Colour  Call sales for custom colours. A full range is available for large orders.
	<b>0918</b>  White base SP ON - OFF (momentary OFF)	<b>V</b> Vandal Resistant IP66 Flattop Stainless Steel 	 Panel Cut-out (Stainless Steel V Actuator) Panel thickness - 8.0mm	
	<b>0919</b>  Black base DP ON - OFF (momentary 1 side)			
	<b>0920</b>  White base DP ON - OFF (momentary ON)			

120/140V Voltage Selector



VS0001

- 2.8 series tabs/solder tags
- Square Front Bezel
- 6.3A

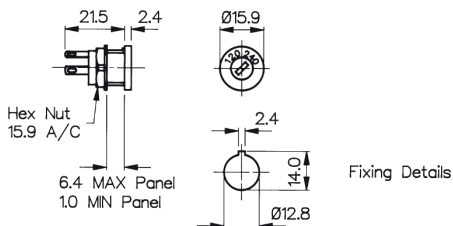


120/240V Voltage Selector

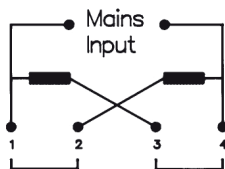


VS0002

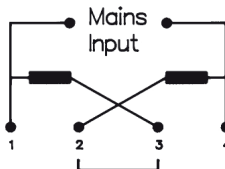
- 2.8 series tabs/Solder tags
- Round Front Bezel
- 6.3A



Connection Parallel 120V



Connection Series 240V



Specifications	VS0001	VS0002
Max. Rating:	6.3A, 120 / 240	6.3A, 120 / 240
Insulation Resistance:	>106 MΩ	>106 MΩ
Termination:	2.8 series tabs/solder tags	2.8 series tabs/solder tags
Temperature Range:	-20°C to +85°C	-20°C to +85°C
Materials:		
Mouldings:	Glass Filled Nylon UL94V-1	Glass Filled Nylon UL94V-1
Tags:	Brass, Silver Plated	Brass, Silver Plated
Contacts:	Copper Silver Alloy	Copper Silver Alloy
Variants:	Other markings, details on request	Other markings, details on request
	<b>RoHS</b>	Compliant

Activated by the touch of a finger, our **Capacitive Switches** are ideal for many repetitive applications requiring a **rugged sealed** and **easy** to use switch solution.



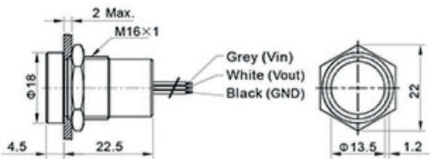
- ⬡ Sealed to IP68 and IP69K
- ⬡ Momentary or latching functions
- ⬡ Large or thin ring illumination options
- ⬡ Long life operation – 50 million of cycles
- ⬡ 16, 19, 22 or 25mm diameter options
- ⬡ Easy to use and clean
- ⬡ Extremely robust and durable – IK10 rated
- ⬡ No operating force required – ideal for repetitive applications
- ⬡ Activated by the touch of a finger – even with surgeon gloves
- ⬡ Natural, black and red anodised options as well as 316L stainless steels

16mm Illuminated



MC16

- Illuminated
- 300 mm lead

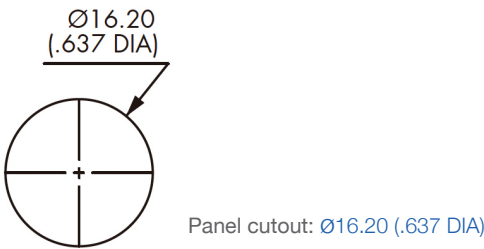


### Specification

### MC16

Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel
	Multi-wire leads setion 0.22mm <sup>2</sup> (length 300mm)
Maximum Current / Voltage Rating:	500mA at 5V, 12V or 24VDC
Supply Voltage	5, 12 or 24 VDC
Contact Resistance	20mΩ
LED state for output image option	1 LED: The LED is ON when output is closed.  2 LEDs: First colour is ON when the output is open. Second colour is ON when the output is closed.
Actuating force, typically	Zero Newton's (Touch Sensitive)
Life cycle	>50 Million

### Panel Cutout Dimensions



### Environmental Specification

Sealing	IP68 (2m depth for >30mins) IP69K
Operating temperature	-25°C to +55°C
RoHS	Compliant

### Circuit Specification

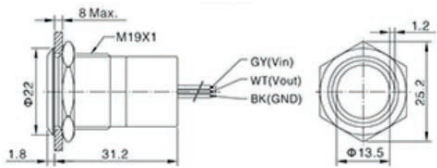
See wiring diagrams on page 50

19mm Illuminated



MC19

- Illuminated
- 300 mm lead

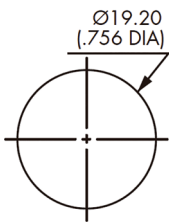


**Specification**

**MC19**

Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel
	Multi-wire leads setion 0.22mm <sup>2</sup> (length 300mm)
Maximum Current / Voltage Rating:	500mA at 5V, 12V or 24VDC
Supply Voltage	5, 12 or 24 VDC
Contact Resistance	20mΩ
LED state for output image option	1 LED: The LED is ON when output is closed.  2 LEDs: First colour is ON when the output is open. Second colour is ON when the output is closed.
Actuating force, typically	Zero Newton's (Touch Sensitive)
Life cycle	>50 Million

**Panel Cutout Dimensions**



Panel cutout: Ø19.20 (.756 DIA)

**Environmental Specification**

Sealing	IP68 (2m depth for >30mins) IP69K
Operating temperature	-25°C to +55°C
RoHS	Compliant

**Circuit Specification**

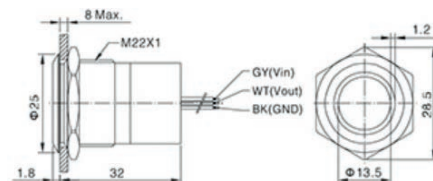
See wiring diagrams on page 50

22mm Illuminated



MC22

- Illuminated
- 300 mm lead

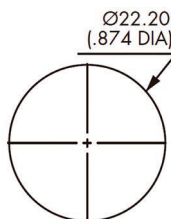


## Specification

### MC22

Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel  Multi-wire leads setion 0.22mm <sup>2</sup> (length 300mm)
Maximum Current / Voltage Rating:	500mA at 5V, 12V or 24VDC
Supply Voltage	5, 12 or 24 VDC
Contact Resistance	20mΩ
LED state for output image option	1 LED: The LED is ON when output is closed.  2 LEDs: First colour is ON when the output is open. Second colour is ON when the output is closed.
Actuating force, typically	Zero Newton's (Touch Sensitive)
Life cycle	>50 Million

## Panel Cutout Dimensions



Panel cutout: Ø22.20 (.874 DIA)

## Environmental Specification

Sealing	IP68 (2m depth for >30mins) IP69K
Operating temperature	-25°C to +55°C
RoHS	Compliant

## Circuit Specification

See wiring diagrams on page 50



25mm Illuminated



  
MC25

 Illuminated  
 300 mm lead

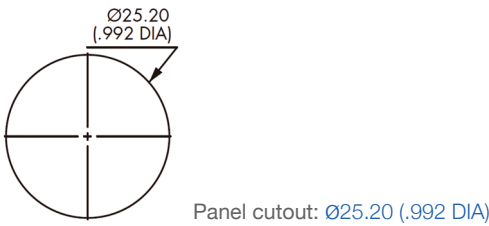


Specification

MC25

Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel  Multi-wire leads setion 0.22mm <sup>2</sup> (length 300mm)
Maximum Current / Voltage Rating:	500mA at 5V, 12V or 24VDC
Supply Voltage	5, 12 or 24 VDC
Contact Resistance	20mΩ
LED state for output image option	1 LED: The LED is ON when output is closed.  2 LEDs: First colour is ON when the output is open. Second colour is ON when the output is closed.
Actuating force, typically	Zero Newton's (Touch Sensitive)
Life cycle	>50 Million

Panel Cutout Dimensions



Environmental Specification

Sealing	IP68 (2m depth for >30mins) IP69K
Operating temperature	-25°C to +55°C
RoHS	Compliant

Circuit Specification

See wiring diagrams on page 50

## Part No System

MC	/	XX	/	X	/	X	/	X	/	XX	/	XX
<b>Series</b> MC-Capacitive Switch		<b>Switch Size</b> 16 = 16mm 19 = 19mm 22 = 22mm 25 = 25mm		<b>Switch Function</b> M = Momentary L = Latching		<b>Switch Status</b> O = Normally Open C = Normally Closed		<b>Colour / Material</b> B = Black Anodised R = Red Anodised S = Stainless Steel		<b>LED Colours</b> GN = GREEN (1 LED) RD = RED (1 LED) AM = AMBER (1 LED) RG = RED + GREEN (2 LEDS) GR = GREEN + RED (2 LEDS)		<b>Voltage</b> 05 = 5VDC 24 = 24VDC * No Suffix = 12VDC

### Note:

2 LED's option: when the output circuit open, first LED color lights. Second LED lights when the output circuit closes

### Examples:

MC16MOSRD = 16mm, Stainless Steel, Momentary Normally Open, Red Illumination, 12VDC

MC22LOBRG24 = 22mm, Black Anodised, Catching Normally Open, Red and Green Illumination, 24VDC

## Circuit Specifications

Wiring Diagrams				<b>Legend</b>  Grey Vin Black black GND White Vout  Wire colours may vary. Always refer to the label on the switch.
	1 LED		2 LEDS	
	Output Indicator	Output Indicator	Output Indicator	
<b>OFF-ON (momentary)</b> Normally Open				
<b>ON-OFF (momentary)</b> Normally Closed				
<b>OFF-ON (latching)</b> Normally Open				
<b>ON-OFF (latching)</b> Normally Closed				

Other switches are available upon request\*

Unlike traditional switches **Piezo** switches have **no moving mechanical parts** making them **extremely durable**, withstanding millions of actuations and requiring little to no maintenance.

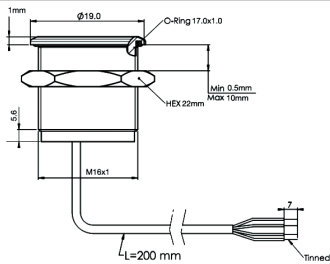


16MM Stainless Steel Non Illuminated



MPZ016

- ⬡ Non Illuminated
- ⬡ 20 cm lead
- ⬡ Flathead or Guided profile



Specification

MPZ016

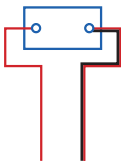
Type	Momentary
Material	Stainless Steel (Aluminium upon request)
Maximum Voltage	24V AC/DC
Switch Resistance “ON“	<1Ω
Switch Resistance “OFF“	5MΩ
Capacitance	100pF
Switching current (momentary)	1A Max
Switching current (prolonged)	300 mA
Switching pulse time (momentary)	up to 0.3 sec
Actuating force, typically	3-5 N
Life cycle	>10 Million

Environmental Specification

Sealing	IP68; IP69K
Operating temperature	-40°C to +85C°
Vibration resistance	5-500Hz/9.4m
Shock resistance	75g (g-force)
RoHS	Compliant

Circuit Specification

16MM Stainless Steel Non Illuminated



Switch voltage	24V AC/DC
Switch Current	1A Max
Power Supply	24V AC/DC

# Piezo Switches

## 19mm Stainless Steel

Illuminated and Non Illuminated

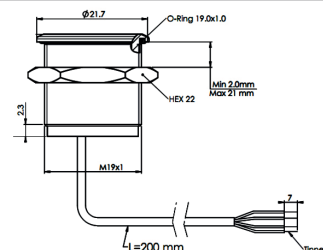


### 19MM Stainless Steel Illuminated

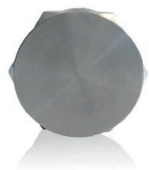


MPZI019

- Blue Illumination
- 20 cm lead
- Flathead

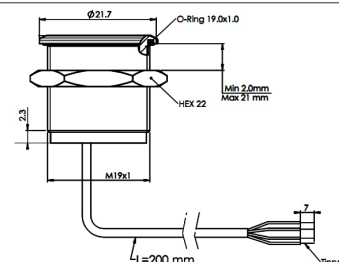


### 19MM Stainless Steel Non Illuminated



MPZ019

- Non Illumination
- 20 cm lead
- Flathead



### Specification

### MPZ019, MPZI019

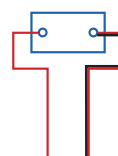
Type	Momentary
Material	Stainless Steel (Aluminium upon request)
Maximum Voltage	24V AC/DC
Switch Resistance "ON"	<1Ω
Switch Resistance "OFF"	5MΩ
Capacitance	100pF
Switching current (momentary)	1A Max
Switching current (prolonged)	300 mA
Switching pulse time (momentary)	up to 0.3 sec
LED Illumination	24V AC/DC
Actuating force, typically	3-5 N
Life cycle	>10 Million

### Environmental Specification

Sealing	IP68; IP69K
Operating temperature	-40°C to +85°C
Vibration Resistances	5-500Hz/9.4m
Shock resistance	75g (g-force)
RoHS	Compliant

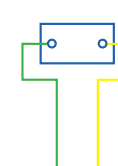
### Circuit Specification

#### 19MM Stainless Steel Non Illuminated



Switch voltage	24V AC/DC
Switch Current	1A Max
Power Supply	24V AC/DC

#### 19MM Stainless Steel Illuminated



Switch voltage	24 V AC/DC
Switch Current	1A Max
Colour* Illuminated	24V AC/DC
Power Supply	24V AC/DC

Piezo Switches  
**22mm Stainless Steel**  
 Illuminated and Non Illuminated

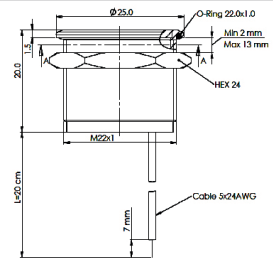


22MM Stainless Steel Non Illuminated



MPZ022

- Non Illumination
- 20 cm lead
- Flathead

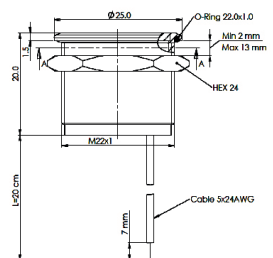


22MM Stainless Steel Illuminated



MPZI022

- Red or Green Illumination
- 1 colour
- 20 cm lead
- Flathead

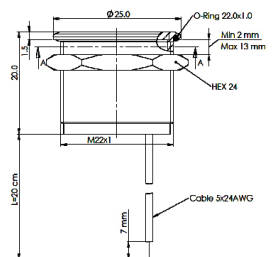


22MM Stainless Steel Illuminated



MPZI022

- Red and Green Illumination
- (2 colour)
- 20 cm lead
- Flathead



**Specification**

**MPZ022, MPZI022**

Type	Momentary
Material	Stainless Steel (Aluminium upon request)
Maximum Voltage	24V AC/DC
Switch Resistance "ON"	<1Ω
Switch Resistance "OFF"	5MΩ
Capacitance	100pF
Switching current (momentary)	1A Max
Switching current (prolonged)	300 mA
Switching pulse time (momentary)	up to 0.3 sec
LED Illumination	24V AC/DC
Actuating force, typically	3-5 N
Life cycle	>10 Million

**Environmental Specification**

Sealing	IP68; IP69K
Operating temperature	-40°C to +85°C°
Vibration Resistances	5-500Hz/9.4m
Shock resistance	75g (g-force)
RoHS	Compliant

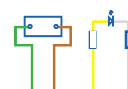
**Circuit Specification**

22MM Stainless Steel Non Illuminated



Switch Voltage	24 AC/DC
Switch Current	1A Max
Power Supply	24V AC/DC

22MM Stainless Steel Illuminated 1 colour



Switch Voltage	24V AC/DC
Switch Current	1A Max
Color* Illuminated	24V AC/DC
Power Supply	24 AC/DC

22MM Stainless Steel Illuminated 2 colour



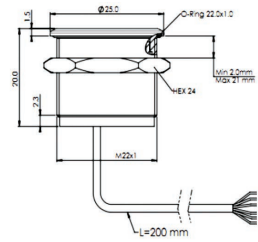
Switch Voltage	24V AC/DC
Switch Current	1A Max
Color* Illuminated	24V AC/DC
Power Supply	24 AC/DC

## 22MM Stainless Steel Illuminated



MPZI022/L

- Blue Illumination
- 1 colour
- 20 cm lead



## Specification

## MPZI022/L

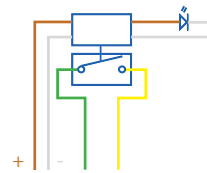
Type	Latching Toggle
Material	Stainless Steel (Aluminium upon request)
Power Supply	24V AC/DC
Switching voltage	48V AC peak/DC
Switch Resistance “ON“	<0.7Ω
Switch Resistance “OFF“	>1000MΩ
Capacitance	<90pF
Switching current	1A Max
LED Illumination	24V AC/DC
Actuating force, typically	3-5 N
Life cycle	>10 Million

### Environmental specification

Sealing	IP68; IP69K
Operating temperature	-40°C to +85°C
Vibration Resistances	5-500Hz/9.4m
Shock resistance	75g (g-force)
RoHS	Compliant

### Circuit Specification

## 22MM Stainless Steel Latching Toggle Illuminated



Power Supply	24V AC/DC
Switch Voltage	48V AC peak/ DC
Switch Current Max	1A Max
Colour* Illuminated	24V AC/DC

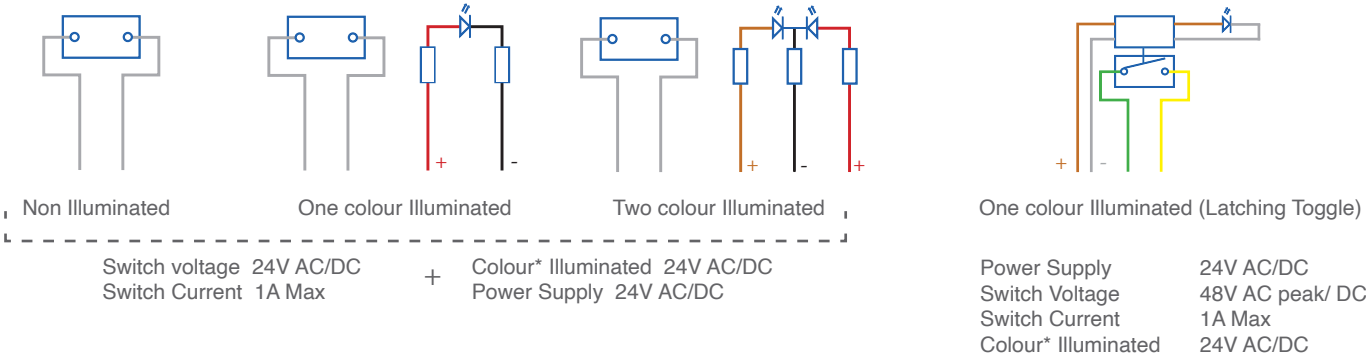
Part No System

MPZ	/	016	/	X	/	XX	/	X	/	X
Series		Body Diameter		Profile		Colour		Led Voltage		Type
MPZ - Non Illuminated MPZI- Illuminated		016 = 16mm 019 = 19mm 022 = 22mm		F = Flat Head G = Guided Profile		BL = Blue RD = Red GN = Green D1 = Red and green		24v		L = Latching Toggle (No Suffix= Momentary)

Examples:

MPZ022/F = Non Illuminated Piezo, 22mm, Flathead  
MPZI022/F/RD/24 = Illuminated Piezo, 22mm, Flathead, Red Illumination, 24 volt  
MPZI022/G/BL/24/L = Illuminated Piezo, 22mm, Guided Profile, Blue Illumination, 24 volt, Latching Toggle

Circuit Specifications



Other switches are available upon request\*



Bulgin's range of **high quality rocker switches** includes a huge choice of **single** and **double contact** options available in various sizes, colours, terminations, actuator types and **ratings up to 20A, 277Vac**, allowing for virtually any design configuration.

- ⬡ Available types: Ultra-thin, Miniature, Twin unit, Miniature round and Standard
- ⬡ Rating from 10A, 250V ac up to 20A, 277V ac
- ⬡ Single & double contact variants available
- ⬡ Push-on, solder & PCB terminals
- ⬡ Illuminated and non-illuminated options
- ⬡ High in-rush (ON-OFF types)
- ⬡ Matching Indicators
- ⬡ Splash resistant options
- ⬡ Choice of bezel styles and sizes, panel cut-outs and actuators
- ⬡ Choice of switching circuits including 3 position



# 8800 Thinline Rocker Switches

10A 250Vac

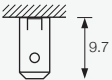

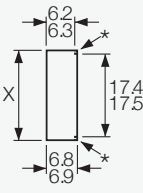
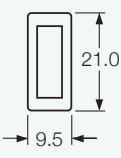
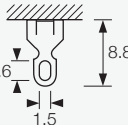

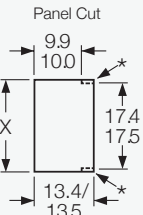
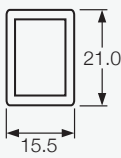
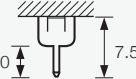




### Key Features

- Ultra thin rocker switch
- Ratings up to 15A, 250Vac
- Single and twin gang
- Panel cut out:  
Single 19.3 x 6.8  
Twin 19.3 x 13.4

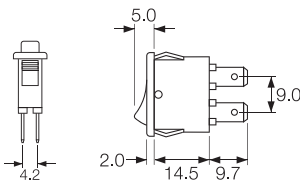
### Approvals and specifications

- 6(2) A 250 V AC 5E4 T100  
10(6) A 250 V AC 1E4 T100  
Inrush 10/50 A 250 V AC 1E4 T100
- UL 15A 250Vac (Twin unit is 10A 250Vac)  
UL 125Vac 1/2hp  
UL 100°C, CSA file LR10990
- 3mm contact gap.

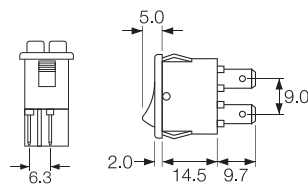
Terminal	Function	Rocker	Body	Body Colour	Rocker Colour
<b>H</b> 	 Switches are ON when pressed over terminal 1		<b>A. Single contact</b>  Panel Cut  Bezel   *Optional profile for orientation	<b>B</b> Black	<b>B</b> Black
<b>T</b> 	<b>8800</b>  ON - OFF Single contact		<b>B. Single contact - Twin</b>  Panel Cut  Bezel   *Optional profile for orientation	<b>R</b> Red	<b>R</b> Red
<b>X</b> 	<b>8800</b>  ON - OFF Twin contact		Panel thickness 0.75-1.2 1.25-1.99 2.00-3.00  Dim X 19.1/19.2 19.3/19.4 19.7/19.8  Cut-outs must be punched in the direction of insertion	<b>W</b> White	<b>W</b> White

### Dimensions

8800VA (H terminals shown)



8800V/8800VA (H terminals shown)



Legend	Legend Colour	Options
Blank	Blank	<b>Finish</b> Matt finish only.
<b>132</b>	<b>B</b> Black	<b>Colour</b> Call sales for custom colours. A full range is available for large orders.
	<b>W</b> White	<b>Legend printing</b> Select from the examples or call sales for custom legends.

### Examples



☞ X8800VA



☞ X8800VA  
☞ T8800VA - - -



☞ X8800VA  
☞ T8800VA - - -



☞ H8800V/H8800VA  
☞ T8800V/T8800VA



☞ H8800V/H8800VA  
☞ T8800V/T8800VA

# 8500 Rocker Switches - Miniature

15A 250Vac Single & Double Contact



## Key Features

- Miniature rocker switch
- Ratings up to 15A, 250Vac
- Single & double contact in same body size
- Illuminated & non-illuminated
- Matching indicators
- Industry standard panel cut-out
- Rotary and push button actuator options
- Panel cut out: 19.3 x 12.9

## Approvals and specifications

6(4) A, 250 VAC, 5E4, T125  
10(6) A, 250 VAC, T125  
10(6) A, 250 VAC, T100

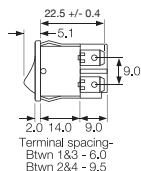
UL 15A Non Ind 250Vac, 14A Ind 250Vac, 10A 277Vac  
UL 250Vac 1/2hp, 125Vac 1/4hp  
UL 105°C, (non lit)

3mm contact gap.

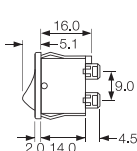
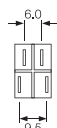
Terminal	Function	Rocker	Body	Body Colour	Rocker Colour
<b>H</b> 	<p>ON OFF Switches are ON when pressed over terminal 1</p>	<b>H</b> Slotted for custom caps 	<b>B</b> Standard body with terminal barrier 	<b>B</b> Black	Un-Lit <b>B</b> Black
<b>K</b> 	<b>8500</b> 	<b>R</b> Semi-rotary (not lit) 	<b>BC</b> Body without terminal barrier 	<b>R</b> Red	<b>R</b> Red
<b>L</b> <p>Right angle version of K terminal available on 8500 only</p>	<b>8503</b> 	<b>D</b> Paddle lever (not lit) 	<b>BC</b> Body without terminal barrier 	<b>W</b> White	<b>W</b> White
<b>R</b> 	<b>8553</b> 	<b>V</b> Curved (not lit) 	Dimensions for snap-in fixing Panel thickness 0.75-1.25 1.25-2.00 2.00-3.00 Dim X 19.1/19.2 19.3/19.4 19.7/19.8		
<b>T</b> <p>Solder</p>	<b>8580</b> Available with H terminals only <p>Indicator UL/CSA E83363</p>	<b>V</b> Curved (lit) 	Cut-outs must be punched in the direction of insertion		
		<b>X</b> Two colour (not lit) 			
		<b>A</b> Softline lens 			
		<b>P</b> Push button operation (8500 only) See drawing opposite			

## Dimensions

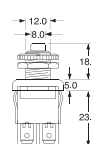
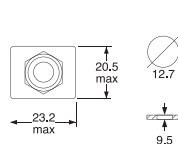
“B” body with barrier for H, T and K terminals



“BC” body w/o barrier primarily for L or R terminals (can be used for all terminals)



‘PO’ Actuator and body - push button function (8500 only)



Insert Colour	Lamp Voltage	Legend	Legend Colour	Options
<b>X</b> Rocker Only	Blank	Blank	Blank	<p><b>Finish</b> Matt finish only.</p> <p><b>Colour</b> Call sales for custom colours. A full range is available for large orders.</p> <p><b>Legend printing</b> Select from the examples or call sales for custom legends.</p> <p><b>Lamp voltage</b> Call sales for details of available voltages.</p> <p><b>Protective cover L167</b> Snaps on to bodies with V or X style rockers and A lens. This reduces panel thickness by 0.8mm.</p>
<b>R</b> Red	<b>2</b> 125V Neon	<b>076</b>	<b>B</b> Black	
<b>W</b> White	<b>3</b> 250V Neon		<b>W</b> White	
Leave blank for other Rocker types	<b>7</b> 12V Filament			
	<b>8</b> 24V Filament			



## Examples



▮ H8500VB ---  
▮ T8500VB ---



▮ H8550VB ---  
▮ T8550VB ---



▮ H8550HB ---  
▮ T8550HB ---



▮ H8550XB ---  
▮ T8550XB ---



H8550RB Semi-rotary  
A splash proofing option



▮ H8500PO ---  
Pushbutton option



▮ H8553VB ---  
▮ T8553VB ---



▮ H8580AB ---

# 8600 Rocker Switches - Miniature

10A 250Vac Single & Double Contact



## Key Features

- Miniature rocker switch
- Ratings up to 16A, 250Vac
- Single & double Contact
- ON/OFF, C/O, biased and centre off switching
- Push on, solder and PCB terminals
- Illuminated and non illuminated
- Matching indicators
- Panel cut out single: 19.3 x 12.9 double: 19.3 x 21.9

## Approvals and specifications

10(4)A 250Vac T90 (unless noted below)

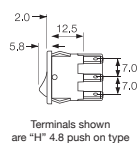
See ratings below  
UL 65°C, file E45221

3mm contact gap except where marked  $\mu$ .

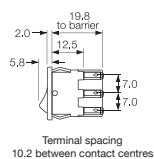
Terminal	Function	Rocker	Body	Body Colour
<p><b>H</b></p> <p>4.8 x 0.8</p> <p>7.4</p> <p><b>T</b></p> <p>Ø2.2</p> <p>6.4</p> <p>3.5 x 0.8 Solder</p> <p><b>X</b></p> <p>3.7</p> <p>5.3</p> <p>PCB 0.85q</p> <p>Double Contact switches with "X" terminals are supplied without terminal barriers</p>	<p>Approvals &amp; ratings vary with function</p> <p>ON OFF Switches are ON when pressed over terminal 3</p> <p><b>8600</b></p> <p>10(4)A 16A 250V, 10A 277V 1/2HP 277V, 1/4HP 125V ON - OFF</p> <p><b>8601</b></p> <p>6(1)A 16A 250V, 6A 277V ON - OFF (momentary ON)</p> <p><b>8602</b></p> <p>10A 6A 277V ON - OFF (momentary OFF)</p> <p><b>N/A</b></p> <p>ON - OFF Lit</p> <p><b>8610</b></p> <p>6(1)A 10A 277V 1/2HP 277V, 1/4HP 125V ON - ON</p> <p><b>8611</b></p> <p>6A 277V ON - ON (momentary 1 side)</p> <p>* 8611 and 8661 not covered by ENEC</p> <p><b>8620 <math>\mu</math></b></p> <p>ON - OFF - ON</p> <p><b>8630</b></p> <p>6(1)A UL E63363 CSA LR29381</p> <p>Indicators</p> <p><b>8650</b></p> <p>10(4)A 10A 277V 1/2HP 277V, 1/4HP 125V ON - OFF</p> <p><b>8651</b></p> <p>6(1)A 6A 277V ON - OFF (momentary ON)</p> <p><b>8652</b></p> <p>10(4)A 6A 277V ON - OFF (momentary OFF)</p> <p><b>8653</b></p> <p>10(4)A 6A 277V ON - OFF Lit</p> <p><b>8660</b></p> <p>6(1)A 10A 277V 1/2HP 277V, 1/4HP 125V ON - ON</p> <p><b>8661</b></p> <p>6A 277V ON - ON (momentary 1 side)</p> <p><b>N/A</b></p>	<p><b>V</b> Curved</p> <p><b>V</b> Curved (lit)</p> <p><b>F</b> Flat Indicator only (Single contact)</p>	<p><b>B</b> Single Contact</p> <p>Panel cut out</p> <p>Bezel</p> <p>21.0</p> <p>12.9</p> <p>15.0</p> <p>Single Contact dimensions for snap-in fixing</p> <p>Panel thickness</p> <p>0.75-1.25 1.25-1.99 2.00-3.00</p> <p>Dim X</p> <p>19.1/19.2 19.3/19.4 19.7/19.8</p> <p><b>B</b> (Double Contact) with terminal barrier</p> <p><b>BC</b> (Double Contact) w/o terminal barrier</p> <p>Panel cut out</p> <p>Bezel</p> <p>21.0</p> <p>21.9</p> <p>24.0</p> <p>Double Contact dimensions for snap-in fixing</p> <p>Panel thickness</p> <p>0.75-1.24 1.25-1.99 2.00-3.00</p> <p>Dim X</p> <p>19.1/19.2 19.3/19.4 19.7/19.8</p> <p>Cut-outs must be punched in the direction of insertion</p>	<p><b>B</b> Black</p> <p><b>R</b> Red</p> <p><b>W</b> White</p>


## Dimensions

Single contact



Double contact



Rocker Colour	Lamp Voltage	Legend	Legend Colour	Options
Un-Lit <b>B</b> Black	Blank	Blank	Blank	<a href="#">Finish</a> Matt finish only.
<b>R</b> Red	<b>2</b> 125V Neon	<b>076</b>	<b>B</b> Black	<a href="#">Colour</a> Call sales for custom colours. A full range is available for large orders.
<b>W</b> White	<b>3</b> 250V Neon		<b>W</b> White	<a href="#">Legend printing</a> Select from the examples or call sales for custom legend.
Lit <b>A</b> Amber	<b>7</b> 12V Filament			<a href="#">Lamp voltage</a> Call sales for details of available voltages.
<b>G</b> Green	<b>8</b> 24V Filament			<a href="#">Blanking plate A8634FB</a> Dummy unit to fill unused panel holes. Single contact size only.
<b>C</b> Clear				<a href="#">Protective covers</a> <a href="#">L167 for SP</a> <a href="#">L180 for DP</a> Snap on to bodies with V rocker or F lens. This reduces panel thickness by 2.2mm.
<b>R</b> Red				
				<a href="#">Single Contact options</a> Most switches shown can have single contact switching in double contact bodies.

## Examples



H8600VB ---  
T8600VB ---



H8600VB ---  
T8600VB ---



H8630FB ---  
T8630FB ---



H8650VB ---  
T8650VB ---



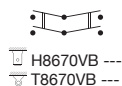
H8660VB ---  
T8660VB ---



H8653VB ---  
T8653VB ---

# 8620 & 8670 Rocker Switches

3 Positions - 10A 250Vac



## Key Features

- 3 position miniature rocker switch
- Panel cut out: single: 19.3 x 12.9 double: 19.3 x 21.9
- Ratings up to 15A, 250Vac
- Single & double Contact
- Centre off switching
- Push on, solder and PCB terminals
- Matching indicators

## Approvals and specifications

- 10(4)A 250Vac T90
- UL 15A 277Vac (Single Contact)
- UL 250Vac 1/2hp (Single Contact)
- UL 125Vac 1/4hp (Single Contact)
- UL 10A 277Vac (Double Contact)
- UL 277Vac 1/2hp (Single & Double Contact)
- UL 90°C

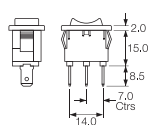
μ contact gap.

Terminal	Function	Rocker	Body	Body Colour	Rocker Colour
<b>H</b>  4.8 x 0.8	<b>8620</b>  ON - OFF - ON Single Contact	<b>V</b>  Curved	<b>B</b> Single Contact  Panel thickness 0.75-1.24 1.25-1.99 2.00-3.00 Dim X 19.1/19.2 19.3/19.4 19.7/19.8	<b>B</b> Black	Lit (DP) <b>A</b> Amber
<b>T</b>  Ø2.15 Solder	<b>8670</b>  ON - OFF - ON Double Contact	<b>H</b>  Slotted for actuator (8620 only)	<b>B</b> Single Contact - Twin  Panel thickness 0.75-1.24 1.25-1.99 2.00-3.00 Dim X 19.1/19.2 19.3/19.4 19.7/19.8	<b>R</b> Red  <b>W</b> White	<b>C</b> Clear  <b>G</b> Green  <b>R</b> Red
<b>X</b>  PCB 0.8sq Double Contact switches with X terminals are supplied without terminal barriers			Cut-outs must be punched in the direction of insertion		Lit (DP) <b>B</b> Black  <b>R</b> Red  <b>W</b> White



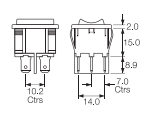
## Dimensions

Single Contact



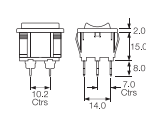
Terminals shown are "H" 4.8 push on type

Double Contact



Terminal spacing 10.2 between Contact centres

Double Contact



Terminal spacing 10.2 between Contact centres

### Lamp Voltage

Blank

**2**

125V Neon

**3**

250V Neon

**7**

12V Filament

**8**

24V Filament

### Legend

Blank

**076**

### Legend Colour

Blank

**B**

Black

**W**

White

### Options

#### Finish

Matt finish only.

#### Colour

Call sales for custom colours.

A full range is available for large orders.

#### Legend printing

Select from the examples or call sales for custom legend.

#### Lamp voltage

Call sales for details of available voltages.

#### Blanking plate A8634FB

Dummy unit to fill unused panel holes. Single Contact size only.

#### Protective covers

L167 for SP

L180 for DP

Snap on to bodies with V rocker or F lens. This reduces panel thickness by 2.2mm.



#### Single Contact options

Most switches shown can have single Contact switching in double Contact bodies.

# 1250 Rocker Switches

10A 250Vac



C1250AP ---



C1250AN ---



### Key Features

- Standard rocker switch
- Double Contact in single Contact body
- Snap in or sub panel mount
- Integral terminal barrier
- Push on or PCB terminals
- Panel cut out: 27.2 x 12.4 (snap in) 26.3 x 12.4 (sub panel mount)

Terminal	Function	Rocker	Body	Body Colour	Rocker Colour
<b>C</b>  6.3 x 0.8	 On when pressed over terminal 1 <b>1250</b>  ON - OFF Double Contact Contacts are 9.0mm between centres.	<b>A</b> Curved  Shown in N body	<b>N</b> Panel cut-out Sub-panel Facia Bezel Panel thickness 0.75-1.24 1.25-1.99 2.00-3.00 Dim X 26.1/26.2 26.3/26.4 26.7/26.8	<b>B</b> Black  <b>W</b> White	<b>B</b> Black  <b>W</b> White
<b>X</b>  5.2 9.0 PCB 0.8sq (N body only)	 On when pressed over terminal 1 <b>1250SP</b>  ON - OFF Single Contact	 Shown in P body	<b>P</b> Panel cut out Bezel Panel thickness 0.75-3.00  Cut-outs must be punched in the direction of insertion		<b>G</b> Grey



# 7500 Rocker Switches

30A 250Vac



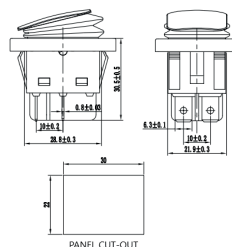
## Key Features

- ⬡ IP68 Rated
- ⬡ Rated to 30A at 250V
- ⬡ Available colours:
  - Transparent: Red, Green, Blue, Yellow, White,
  - Solid: Black
- ⬡ Termination options: Screw Terminal, 6.3 X 0.8mm solder tab / Push fit
- ⬡ Switch functions available: ON-OFF, ON-ON, ON-OFF-ON.
- ⬡ Panel Cut Out - 30mm x 22mm

## Approvals and specifications



UL = 30A 250Vac, 40T85, 1E4 (10,000 cycles)  
cUL = 30A 250Vac, 40T85, 1E4 (10,000 cycles)



Terminal	Function	Rocker	Lamp Voltage	Rocker Colour
<b>C</b>  6.3 x 0.8mm	<b>7510</b>  ON - OFF	<b>T</b> Transparent 	<b>000</b> No LED	Illuminated (DP)  <b>R</b> Red
	<b>7520</b>  ON - ON	<b>S</b> Solid 	<b>012</b> 12V	
<b>S</b>  Screw & Clamp	<b>7530</b>  ON - OFF - ON		<b>024</b> 24V	<b>G</b> Green
			<b>110</b> 110V	<b>B</b> Blue
			<b>250</b> 250V	<b>Y</b> Yellow
				<b>W</b> White
				<b>K</b> Black Non-Illuminated (DP)

General Specifications	
Electrical	
Voltage	250VAC
Current	30A
Insulation Resistance	≥50MΩ/500VDC
Power-Frequency Withstand Voltage	AC1500v 10s
Durability	10,000
Operating Temperature	-40°C to 85°C
Switch Contact Configuration	Double Pole
Technical	
Panel Mount Cut-Out	22mm X 30mm Square
Max Panel Thickness	2.5mm
Terminal Material	Brass (Silver Plated)
Body Material	PA66 Nylon
Approvals	UL (File Number: E45221)
IP Rating	IP68

# 6000 SP Splash Resistant Rocker Switches

16A 250Vac



## Key Features

- Ratings up to 20A, 277Vac
- Positive switch action
- Distinctive styling
- Illuminated & nonilluminated
- Single Contact
- Panel cut out: 30.1 x 11.1mm

## Approvals and specifications



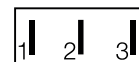
European 16(4)A 250Vac T125, 10A 400Vac T125

UL = 20A 277Vac, 1 1/2HP 250Vac 1HP 125Vac  
cUL = 20A 277Vac, 1HP 125Vac, 1/2HP 125Vac

3mm contact gap with Positive Break switching.  
Call factory for IP details.

## Vary with Function

Approvals & ratings vary with function  
ON OFF Switches - ON when pressed  
over terminals 3.



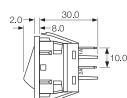
Terminal	Function	Rocker	Body	Body Colour	Rocker Colour	Lamp Voltage
<b>C</b> 	<b>6000</b>  <b>6001</b>  ON - OFF (momentary ON)	<b>A</b> Softline Matt 	<b>L</b> Panel cut-out ** Bezel  Cut-outs must be punched in the direction of insertion	<b>B</b> Black  <b>W</b> White	Lit (DP)  <b>A</b> Amber  <b>C</b> Clear  <b>G</b> Green  <b>R</b> Red  Lit (DP)  <b>B</b> Black  <b>R</b> Red  <b>W</b> White	Blank  <b>2</b> 125V Neon  <b>3</b> 250V Neon  <b>5</b> 12Vdc LED (P Rocker)  <b>6</b> 24Vdc LED (P Rocker)  <b>7</b> 12V Filament  <b>8</b> 24Vdc Filament
<b>H</b> 	<b>6002</b>  ON - OFF (momentary OFF)  <b>6003</b>  ON - OFF Lit	<b>A</b> Softline Matt   <b>P</b> Lit window Matt 				
<b>S</b> Screw & Clamp N/A for assemblies with 3 terminals	<b>6008</b>  ON - OFF Lit (Unswitched neutral)  <b>6009</b>  ON - OFF (momentary ON) Lit (Unswitched neutral)  <b>6010</b>  ON - ON  <b>6011</b>  ON - ON (momentary 1 side)					

## Integral Splash Resistance




Current carrying parts are protected from moisture. Droplets which may enter the switch are channelled out through ports in the switch body. For IP65 see options below

## Dimensions



Panel thickness  
L 0.75 to 2.5mm

Legend	Legend Colour	Options
Blank	Blank	<b>G74</b> Protective Cover
<b>1223</b>	<b>B</b> Black	<p><b>Finish</b> Matt is standard.</p> <p><b>Colour</b> Call sales for custom colours. A full range is available for large orders.</p> <p><b>Legend printing</b> Select from the examples or call sales for custom legends.</p> <p><b>Lamp voltage</b> Call sales for details.</p> <p><b>Protective cover</b> A snap on cover is available (add G after body code), this reduces panel thickness by 2mm.</p>  <p>Panel sealing washer W46 is available, this reduces panel thickness by 1.2mm.</p> <p>Covers are not suitable for momentary types. For all options call the factory</p>
	<b>W</b> White	

## Examples



C6000AL - - -



C6000AL - - -



C6010AL - - -



C6003AL - - -



C6003PL - - -



C6030AL - - -

# 6050 DP Splash Resistant Switches

& Twin Switches - 16A 250Vac



## Key Features

- Ratings up to 20A, 277V ac
- Positive switch action
- Distinctive styling
- Illuminated & non-illuminated
- Double Contact
- DC LED Illumination Available
- Panel cut out: 30.1 x 22.2mm

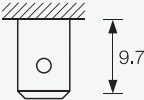






















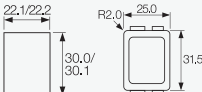
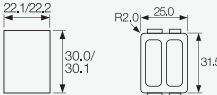
## Approvals and specifications

European 16(4)A 250Vac T125, 10A 400Vac T125

UL (except 6054 & 6055 Switches) 20A 277Vac, 250Vac 11/2hp, 125Vac 1hp

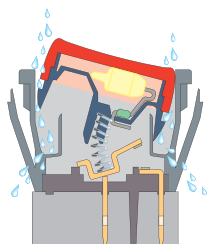
UL 100°C

3mm contact gap with Positive Break switching.

Terminal	Function	Rocker	Body	Body Colour	
<div>C</div> <div></div> <div>6.3 x 0.8</div>	<div>6050</div> <div></div> <div>ON - OFF</div> <div>6051</div> <div></div> <div>ON - OFF (momentary ON)</div> <div>6052</div> <div></div> <div>ON - OFF (momentary OFF)</div> <div>6053</div> <div></div> <div>ON - OFF Lit</div> <div>6054</div> <div></div> <div>ON - OFF (momentary ON) Lit</div> <div>6055</div> <div></div> <div>ON - OFF (Single Contact) (momentary ON) Lit</div> <div>6056</div> <div></div> <div>ON - OFF (Single Contact) Isolated light</div> <div>6057</div> <div></div> <div>ON - OFF Isolated light</div> <div>6058</div> <div></div> <div>ON - OFF (Single Contact) Lit</div> <div>6059</div> <div></div> <div>ON - OFF (Single Contact) (momentary ON) Isolated light</div>	<div>6060</div> <div></div> <div>ON - ON</div> <div>6061</div> <div></div> <div>ON - ON (momentary 1 side)</div> <div>6062</div> <div></div> <div>2 Circuit ON - ON (In house tests only)</div> <div>6066</div> <div></div> <div>ON - ON (Single Contact) Isolated light</div> <div>6067</div> <div></div> <div>ON - ON Lit</div> <div>6068</div> <div></div> <div>ON - ON 1 Contact ON - OFF Lit 1 Contact</div> <div>6090</div> <div></div> <div>ON - OFF 1 Contact ON - OFF Lit 1 Contact</div> <div>6091</div> <div></div> <div>ON - OFF (momentary ON) Lit</div> <div>6092</div> <div></div> <div>ON - OFF 1 Contact ON - ON 1 Contact Lit</div> <div>Circuits are Double Contact unless described otherwise</div>	<div>A</div> <div>Softline Matt</div> <div></div> <div>A</div> <div>Softline Matt</div> <div></div> <div>P</div> <div>Lit window Matt</div> <div></div> <div>Lit window</div>	<div>L</div> <div>Double Contact</div> <div>Panel cut-out ** Bezel</div> <div></div> <div>22.1/22.2</div> <div>30.0/ 30.1</div> <div>25.0</div> <div>31.5</div> <div>R2.0</div> <div>L</div> <div>Twin units</div> <div>Contact sales for information on splash resistance and IP ratings</div> <div></div> <div>22.1/22.2</div> <div>30.0/ 30.1</div> <div>25.0</div> <div>31.5</div> <div>R2.0</div>	<div>Lit (DP)</div> <div>A</div> <div>Amber</div> <div>C</div> <div>Clear</div> <div>G</div> <div>Green</div> <div>R</div> <div>Red</div> <div>Un-Lit (DP)</div> <div>B</div> <div>Black</div> <div>R</div> <div>Red</div> <div>W</div> <div>White</div>



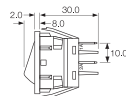
## Integral Splash Resistance



Current carrying parts are protected from moisture. Droplets which may enter the switch are channelled out through ports in the switch body.

For IP65 see options below

## Dimensions



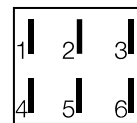
Panel thickness

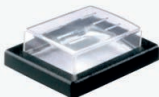
L 0.75 to 2.5mm

Terminal spacing - Contacts 10.5 between centres

## Vary with Function

Approvals & ratings vary with function  
ON OFF Switches - ON when pressed over terminals 3 & 6.



Rocker Colour	Lamp Voltage	Legend	Legend Colour	Options
<b>B</b> Black	Blank	Blank	Blank	<b>G72</b> Protective Cover
<b>R</b> Red	<b>2</b> 125V Neon	<b>1223</b>	<b>B</b> Black	<p><a href="#">Finish</a> Matt is standard.</p> <p><a href="#">Colour</a> Call sales for custom colours. A full range is available for large orders.</p> <p><a href="#">Legend printing</a> Select from the examples or call sales for custom legends.</p> <p><a href="#">Protective cover</a> The 6050 series is a water through design. For a higher level of sealing, a snap on cover is available (add G after body code). This reduces panel thickness by 1mm.</p>  <p>Panel sealing washer W42 is available. This reduces panel thickness by 1.00mm. Covers are not suitable for momentary types.</p> <p><a href="#">IP Ratings</a> Call the sales for details.</p> <p><a href="#">Terminal Link P1067</a> connects the Contacts of a double Contact switch or twin unit.</p> <p># Mounting orientation may affect IP rating.</p>
<b>W</b> White	<b>3</b> 250V Neon		<b>W</b> White	
	<b>5</b> 12Vdc LED (P Rocker)			
	<b>6</b> 24Vdc LED (P Rocker)			
	<b>7</b> 12V Filament			
	<b>8</b> 24Vdc Filament			

## Examples



☐ C6050AL - - -



☐ C6053AL - - -



☐ C6053PL - - -



☐ C6000A/C6000AL



☐ C6003P/C6003PL



☐ C6003P/C6030AL

# 1500 Standard & 1300 High Inrush Switches

150A to EN61058-1 and 16A 250Vac



## Key Features

- Standard rocker switch
- Non-illuminated
- 150A inrush
- Choice of switching circuits including 3 position
- Choice of bezel styles
- Choice of panel cut outs
- Matching indicator
- Single Contact
- Splash resistant option
- DC LED Illumination Available for "P" Rocker
- Panel cut out 'A' style: 27.3 x 12.3mm

## Approvals and specifications

1500 Series 16(4)A 250Vac T125 (European Approvals Pending)

UL 16A Non Ind 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp, (3 posn) 250Vac 1/2hp, 125Vac 1/4hp  
1330 36Vdc 14A  
1350 72 Vdc 7A  
1500 & 1510 14 Vdc 10A  
UL 85°C

**In house test:**  
10A 24Vdc—Indicative rating only

1300 series 16(4)A 250Vac T125 1E4 (10,000 Ops.)

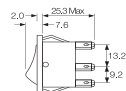
Terminal	Function	Rocker	Body	Finish	Body Colour
<b>C</b>  6.3 x 0.8	<b>Standard 1500</b> ON - OFF <b>1501</b> HP rating N/A ON - OFF (momentary ON) <b>1502</b> HP rating N/A ON - OFF (momentary OFF) <b>1510 μ</b> HP rating N/A ON - ON <b>1511 μ</b> HP rating N/A ON - ON (momentary 1 side) <b>1520 μ</b> 125V & 250V 1/2 HP H terminal rated T100 only ON - OFF - ON <b>1521 μ</b> HP rating N/A H terminal rated T100 only ON - OFF - ON (momentary 1 side) <b>1522 μ</b> HP rating N/A H terminal rated T100 only ON - OFF - ON (momentary 2 sides) <b>0430 (Indicator)</b> HP rating N/A H terminal rated T100 only <b>1484</b> In-house tested to 10(3)A 250Vac 3 position selective <b>1487</b> In-house tested to 10(3)A 250Vac 3 position selective <b>High Inrush 1300</b> ON - OFF	<b>A</b>  Softline Matt <b>B</b>  Splash resistant (with Arcshield) Matt <b>H</b>  Slotted (for custom Adaptors) not momentary <b>V</b>  Curved Matt or gloss <b>W</b>  Splash resistant (with Arcshield) Matt <b>X</b>  Two colour Matt ON - OFF only (not momentary) <b>F</b>  Flat lens Gloss (0430 only) <b>A</b>  Softline lens Matt (0430 only) as F but with raised profile	Panel cut-out Bezel Cut-outs must be punched in the direction of insertion <b>A</b>  27.2/27.3 12.2/12.3 Gloss or Matt <b>B</b>  30.0/30.1 11.0/11.1 R3.5 33.4 14.0 Matt only <b>L</b>  30.0/30.1 11.0/11.1 R1.0 32.0 14.0 Matt only <b>Q</b>  28.2/28.3 11.5/11.6 R1.6 30.2 14.0 Gloss or matt <b>R</b>  28.5/28.6 14.0/14.1 31.5 17.0 Matt only <b>T</b>  28.2/28.3 11.5/11.6 R1.6 30.2 14.0 Matt only	<b>M</b> Matt <b>G</b> Gloss Applies to both Rocker & Body	<b>B</b> Black <b>R</b> Red <b>W</b> White

## Dimensions

150A Inrush to EN61058-1  
UL 20A 250Vac 1hp, 125Vac 1/2hp  
UL 85°C

**In house test:**  
20A 24Vdc — Indicative rating only

3mm contact gap except if marked  $\mu$ .

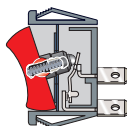


**Panel thickness**  
A,Q 0.75 to 3.3mm  
L,B,T 0.75 to 2.5mm  
R 0.75 to 3.0mm

## Splash Resistance

### 1500 W and B splash resistant options

Feather edge seals and a close fitting collar protect current carrying parts from moisture.  
B option has Hytrel collar/seals for enhanced protection.



### 1300 High inrush, positive break switching

The 1300 series mechanism ensures contact welds formed at switch-on are positively separated by the plunger tube acting directly on the step in the moving contact.

Rocker Colour	Lamp Voltage	Insert Colour	Legend	Legend Colour	Options
Un-Lit	Blank	Blank	Blank	Blank	Finish Matt is standard.
<b>B</b> Black	<b>2</b> 125V Neon	<b>R</b> Red	<b>602A</b>	<b>B</b> Black	Colour Call sales for custom colours. A full range is available for large orders.
<b>R</b> Red	<b>3</b> 250V Neon	<b>W</b> White		<b>W</b> White	Legend printing Select from the examples or call sales for custom legends.
<b>W</b> White	<b>7</b> 12V Filament				Lamp voltage Call sales for details.
Lit	<b>8</b> 24Vdc Filament				Blanking plates A0434 - - Dummy units to fill unused panel holes.
<b>A</b> Amber					Protective cover Snaps on to A, L, Q or T bodies (add G after body code in cat no.), this reduces panel thickness by 1mm.
<b>C</b> Clear					
<b>G</b> Green					Panel sealing washer W46 is available for the same body sizes, this reduces panel thickness by a further 0.8mm. Covers are not suitable for momentary types.
<b>R</b> Red					For all options call sales.

## Examples



C1500AR ---  
T1500AR ---



C1500AL ---  
T1500AL ---



C1500XL ---  
T1500XL ---



C1510AL ---  
T1510AL ---



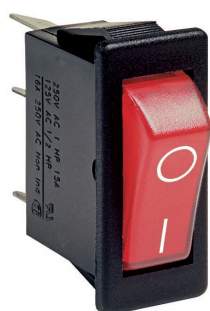
C1520AL ---  
T1520AL ---



C0430AL ---  
T0430AL ---

# 5500 Lit Rocker Switches

10A 250Vac



## Key Features

- Standard rocker switch
- Illuminated
- Choice of switching circuits
- Choice of bezel styles
- Choice of panel cut outs
- Matching indicator
- Single Contact
- Splash resistant option
- Panel cut out 'A' style:

## Approvals and specifications

16(4) A, 250 V ac, 50/60 Hz, IP40, 1E4, T85/55, micro disconnection  
12 A, 250 V ac, 50/60 Hz, IP40, 1E4, T125/55, micro disconnection

UL 15A 250Vac, CSA 16A Non Ind 250Vac  
UL 250Vac 1hp, 125Vac 1/2hp  
UL 85°C

μ contact gap.

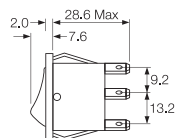
For Twin units repeat the order details for both the left and right sides.

Terminal	Function	Rocker	Body	Body Colour	Rocker Colour
<b>C</b>  6.3 x 0.8	Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminal 3 	<b>A</b> Softline (Matt only) 	<b>A</b> Panel Cut - outs  Bezel 	<b>B</b> Black	Un-Lit  <b>B</b> Black
<b>H</b>  4.8 x 0.8	<b>5500 μ</b>  ON - OFF Single Contact	<b>P</b> Lit window (Matt only) 	<b>B</b>  	<b>W</b> White	<b>R</b> Red  <b>W</b> White
<b>T</b>  Solder	<b>5503 μ</b>  ON - OFF Lit Switched neutral		<b>L</b>  		Lit
	<b>5508 μ</b>  ON - OFF Lit Unswitched neutral		<b>Q</b>  		<b>A</b> Amber
			<b>R</b>  		<b>C</b> Clear  <b>G</b> Green
			<b>T</b>  		<b>R</b> Red

## Dimensions

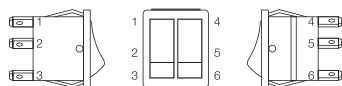
### Panel thickness

**A, Q** 0.75 to 3.3mm  
**L, B, T** 0.75 to 2.5mm  
**R** 0.75 to 3.0mm




### Twin units

Two single switches or a switch and an indicator light can be assembled side by side in one double Contact body.  
 For 5500 range panel cut-out details (L, B and T) call sales.



Terminal spacing -  
 Contacts 10.8 between centres (twin units)

For twin units the first set of order format details refer to the left hand unit, when looking at the front of the assembly.  
 (This has terminal numbers 1, 2 & 3)

Lamp Voltage	Legend	Legend Colour	Options
Blank	Blank	Blank	<p><b>Finish</b>            Matt is standard.</p> <p><b>Colour</b>            Call factory for custom colours.            A full range is available for large orders.</p> <p><b>Legend printing</b>            Select from the examples or            call factory for custom legends.</p> <p><b>Lamp voltage</b>            Call factory for details.</p> <p><b>Blanking plate A0434 - - (SP) A0494 - - (DP)</b>            Dummy units to fill unused panel holes.</p> <p><b>Protective cover</b>            Snaps on to A, L, Q or T bodies (add G after body in cat no.), this reduces panel thickness by 1.00mm.</p>  <p>Panel sealing washers W46 (Single Contact) and W42 (Double Contact) are available for these body types, this reduces panel thickness by 2mm.</p> <p>For all options call the factory.</p>
<b>2</b> 125V Neon	<b>602A</b>	<b>B</b> Black	
<b>3</b> 250V Neon		<b>W</b> White	
<b>5</b> 12Vdc LED (P Rocker) IF = 20-30mA			
<b>6</b> 24Vdc LED (P Rocker) IF = 20-30mA			
<b>7</b> 12V Filament			
<b>8</b> 24Vdc Filament			

## Examples



☐ C5503AL - - -



☐ C5500AL - - -



☐ C5503PL - - -



☐ C5503A/C5430AL



☐ C5503A/C5503AL



☐ C5503P/C5503PL



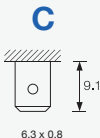




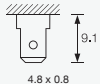



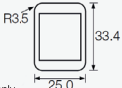
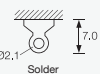



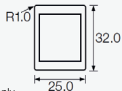
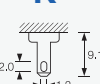




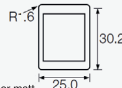
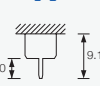




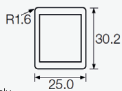
## Key Features

- Twin unit rocker switch
- Choice of switching circuits including 3 position
- Push-on, solder and PCB terminals
- Choice of bezel styles
- Choice of panel cut outs
- Matching indicator
- Single Contact switches
- Splash resistant option
- Panel cut out 'A' style: 27.2 x 22.3mm

## Approvals and Specifications

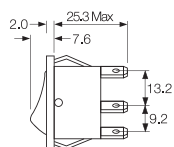
- 16(4)A 250Vac T125 (Pending)
- UL 16A 250Vac
  - UL (2 posn) 250Vac 1hp, 125Vac 1/2hp, (3 posn) 250 Vac 1/2hp, 125Vac 1/4hp
  - UL 85°C

For versions with High Inrush or for 50,000 operations,  
3mm contact gap except where marked  $\mu$ .

Terminal	Function	Rocker	Body	Finish	Body Colour	Rocker Colour
<b>C</b> 	<p>Approvals &amp; ratings vary with function ON OFF Switches - ON when pressed over terminal 1 or 4</p> 	<b>A</b> Softline (Matt only) 	<p>Panel Cut - outs      Bezel</p> <p><b>A</b>  </p> <p>Gloss or Matt</p>	<b>M</b> Matt	<b>B</b> Black	Un-Lit  <b>B</b> Black
<b>H</b> 	<b>1500</b>  <p>ON - OFF</p>	<b>B</b> Softline (Matt only) 	<p><b>B</b>  </p> <p>Matt only</p>	<b>G</b> Gloss	<b>W</b> White	<b>R</b> Red
<b>T</b>  <p>Solder</p>	 <p>ON - ON</p>	<b>W</b> Softline (Matt only) 	<p><b>L</b>  </p> <p>Matt only</p>	<p>Applies to both Rocker &amp; Body</p>		<b>W</b> White
<b>K</b> 	<b>1520 µ</b>  <p>ON - OFF - ON</p>					Lit
<b>0430</b>  <p>Indicator</p>		<b>X</b> Softline (Matt only) 	<p><b>Q</b>  </p> <p>Gloss or matt</p>			<b>A</b> Amber
<b>X</b> 		<b>A</b> Softline (Matt only) 	<p><b>R</b>  </p> <p>Matt only</p>			<b>C</b> Clear
			<p><b>T</b>  </p> <p>Matt only</p>			<b>G</b> Green
						<b>R</b> Red

## Dimensions

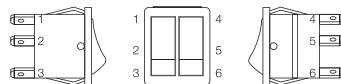
**Panel thickness**  
**A,Q** 0.75 to 3.3mm  
**L,B,T** 0.75 to 2.5mm  
**R** 0.75 to 3.0mm



Call sales for terminal spacing details

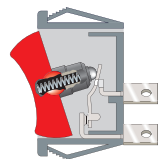
## Twin units

Two single switches or a switch and an indicator light can be assembled side by side in one double Contact body.



For twin units the first set of order format details refer to the left hand unit, when looking at the front of the assembly.  
 (This has terminal numbers 1, 2 & 3)

## Splash Resistant



Feather edge seals and a close fitting collar protect current carrying parts from moisture.

B option has Hytrel collar/seals for enhanced protection.

Insert Colour	Lamp Voltage	Legend	Legend Colour	Options
Blank	Blank	Blank	Blank	<p><b>Finish</b> Matt is standard.</p> <p><b>Colour</b> Call factory for custom colours. A full range is available for large orders.</p> <p><b>Legend printing</b> Select from the examples or call factory for custom legends.</p> <p><b>Lamp voltage</b> Call factory for details.</p>
<b>R</b> Red	<b>2</b> 125V Neon	<b>602A</b>	<b>B</b> Black	
<b>W</b> White	<b>3</b> 250V Neon		<b>W</b> White	
	<b>5</b> 12Vdc LED (P Rocker)			
	<b>6</b> 24Vdc LED (P Rocker)			
	<b>7</b> 12V Filament			
	<b>8</b> 24Vdc Filament			

## Examples



C1500A/C1500AL



C1500A/C0430AL



C1500X/C1500XL



C1520A/C1510AL



C1500A/C1520AL



C0430A/C0430AL

# 1550 Standard and 1350 High Inrush Switches

150A to EN61058-1 and 16A 250Vac



## Key Features

- Standard rocker switch
- 1350/53 high inrush
- Choice of switching circuits including 3 position
- Push-on, solder and PCB terminals
- Choice of bezel styles
- Choice of panel cut outs
- Matching indicator
- Double Contact
- Splash resistant option
- Panel cut out 'A' style: 27.2 x 22.3mm

## Approvals and specifications

UL 1550 Series 16(4)A 250Vac T125 (Pending)

UL 16A 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp, 1350 72 Vdc 7A  
(3 posn) 250 Vac 1/2hp, 125Vac 1/4hp.  
UL 85°C

### In house test:

10A 24Vdc— Indicative rating only. NB Types fitted with Neon will not illuminate for low DC voltage applications.

1350 series 16(4)A 250Vac T125 1E4 (10,000 Ops.)  
1330 series 16(6)A 250Vac T125 1E4 (10,000 Ops.)  
150A Inrush to EN61058-1.

Terminal	Function		Rocker	Body
<b>C</b>  6.3 x 0.8	<b>Standard 1550</b>  ON - OFF	<b>0480</b> X terminal N/A	<b>A</b> Softline Matt 	Panel cut-out Bezel Cut-outs must be punched in the direction of insertion  Gloss or Matt
<b>H</b>  4.8 x 0.8*	<b>1551</b> HP rating N/A  ON - OFF (momentary ON)	<b>High Inrush 1350</b> Not W, X or B rocker  ON - OFF	<b>B</b> Splash resistant Softline 	 Gloss or Matt
<b>K</b>  2.8 x 0.8*	<b>1552</b> HP rating N/A  ON - OFF (momentary OFF)	<b>1353</b> Not W, X or B rocker  ON - OFF Lit	<b>V</b> Curved Matt or Gloss  Gloss only Lit (not momentary)	<b>B</b>  Matt only
<b>T</b>  Ø2.1 Solder	<b>1553</b> Not W, X or B rocker  ON - OFF Lit	<b>High Inrush 1300</b> ON - OFF	<b>W</b> Splash resistant Curved 	<b>L</b>  Matt only
<b>U</b>  Ø2.1 Right angle "T" solder terminal	<b>1560 µ</b>  ON - ON	 ON - ON	<b>P</b> Lit window Matt  Lit (not momentary)	<b>Q</b>  Gloss or matt
<b>X</b>  Ø2.1 PCB 0.8Sq*	<b>1561 µ</b> HP rating N/A  ON - ON (Momentary 1 Side)	 ON - ON	<b>X</b> Two colour Matt  (ON OFF only - not momentary)	<b>R</b> Round  Matt only
	<b>1562 µ</b> In house tests only  2 Circuit ON - ON	 2 Circuit ON - ON	<b>R</b> Round  Matt only	<b>R</b>  Matt only
	<b>1570 µ</b> 125V & 250V 1/2 HP H terminal rated T100 only H terminal rated T100 only	 ON - OFF - ON	<b>F</b> Flat Lens Gloss (0480) 	<b>T</b>  Matt only
	<b>1571 µ</b> HP rating N/A H terminal rated T100 only	 ON - OFF - ON (momentary 1 side)	<b>A</b> Softline lens Matt (0480 only) as F but with raised profile 	
	<b>1572 µ</b> HP rating N/A H terminal rated T100 only	 ON - OFF - ON (momentary 2 sides)		



## Approvals and specifications (continued)

**UL 20A 250Vac 1hp, 125Vac 1/2hp.**  
**UL 72Vdc 7A, 36Vdc 14A.**  
**UL 85°C.**

### In house test:

20A 24Vdc—Indicative rating only

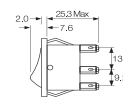
3mm contact gap except if marked µ.

## Splash Resistance



**1300 High inrush, positive break switching**  
The 1300 series mechanism ensures contact welds formed at switch-on are positively separated by the plunger tube acting directly on the step in the moving contact.

## Dimensions



### Panel thickness

A,Q 0.75 to 3.3mm  
L,B,T 0.75 to 2.5mm  
R 0.75 to 3.0mm

Finish	Body Colour	Rocker Colour	Insert Colour	Lamp Voltage	Legend	Legend Colour	Options
<b>M</b> Matt	<b>B</b> Black	Un-Lit <b>B</b> Black	Blank	Blank	Blank	Blank	Finish Matt is standard.
<b>G</b> Gloss	<b>W</b> White	<b>R</b> Red	<b>R</b> Red	<b>2</b> 125V Neon	<b>602A</b>	<b>B</b> Black	Colour Call sales for custom colours. A full range is available for large orders.
Applies to both Rocker & Body		<b>W</b> White	<b>W</b> White	<b>3</b> 250V Neon		<b>W</b> White	Legend printing Select from the examples or call sales for custom legends.
		Lit <b>A</b> Amber		<b>5</b> 12Vdc LED (P Rocker)			Lamp voltage Call sales for details.
		<b>G</b> Green		<b>6</b> 24Vdc LED (P Rocker)			Blanking plates A0494 Dummy units to fill unused panel holes.
		<b>C</b> Clear		<b>7</b> 12V Filament			Protective cover Snaps on to A, L, Q or T bodies (add G after body in cat no). This reduces panel thickness by 1mm.
		<b>R</b> Red		<b>8</b> 24Vdc Filament			

## Examples



□ C1350AL ---



□ C1550XL ---



□ C1553PL ---



□ C1553RA ---  
Shown with M614  
bezel cover



Optional snap-in  
M441 barrier



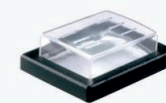
C1553AA with M616  
guard Cut-out  
22.0/22.1 x 29.4/29.5  
Guard accepts "A"  
body only



□ C0480RA ---  
Shown with  
M614 bezel  
cover



□ C0480AL ---



Panel sealing washer W42  
is available for the above  
body sizes. This reduces  
panel thickness by a further  
1.00mm.  
Covers are not suitable for  
momentary types.

For all options call sales.

# 1550 Standard & 1350 High Inrush Switches

150A to EN61058-1 and 16A 250Vac/250Vdc



## Key Features

- Standard rocker switch
- 1350/53 high inrush
- Choice of switching circuits including 3 position
- Push-on, solder and PCB terminals
- Choice of bezel styles
- Choice of panel cut outs
- Matching indicator
- Double Contact
- Option with guard & cover
- DC LED Illumination Available for "P" Rocker
- Bezel size 'G' style 32.0 x 25.0

## Approvals and specifications

- 1550 Series 16(4)A 250Vac T125 (Pending)
- UL 16A 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp, (3 posn) 250 Vac 1/2hp, 125Vac 1/4hp. UL 85°C.
- 1350 series 16(4)A 250Vac T125 1E4 (10,000 Ops.)
- 1330 series 16(6)A 250Vac T125 1E4 (10,000 Ops.)
- 150A Inrush to EN61058-1.

Terminal	Function	Rocker	Body	Finish	Body Colour	Rocker Colour
<b>C</b>  6.3 x 0.8	<b>Standard 1550</b>  ON - OFF <b>1551</b> HP rating N/A  ON - OFF (momentary ON) <b>1552</b> HP rating N/A  ON - OFF (momentary OFF) <b>1553</b> Not W, X or B rocker  ON - OFF Lit <b>1560 μ</b>  ON - ON <b>1561 μ</b> HP rating N/A  ON - ON (Momentary 1 Side) <b>1562 μ</b> In house tests only  ON - ON 2 Circuit <b>1570 μ</b> 125V & 250V 1/2 HP H terminal rated T100 only terminal rated T100 only  ON - OFF - ON <b>1571 μ</b> HP rating N/A H terminal rated T100 only  ON - OFF - ON (momentary 1 side) <b>1572 μ</b> HP rating N/A H terminal rated T100 only  ON - OFF - ON (momentary 2 sides)	<b>A</b> Softline Matt  <b>V</b> Curved Matt or Gloss  Gloss only Lit (not momentary) <b>P</b> Lit window Matt  Lit (not momentary)	Panel cut-out Bezel Cut-outs must be punched in the direction of insertion <b>H</b>  22.1/22.2 x 30.0/30.1 x 32.0 Matt only <b>G</b>  22.1/22.2 x 30.0/30.1 x 32.0 Matt only	<b>M</b> Matt <b>G</b> Gloss Applies to both Rocker & Body	<b>B</b> Black <b>W</b> White	Un-Lit <b>B</b> Black <b>R</b> Red <b>W</b> White Lit <b>A</b> Amber <b>G</b> Green <b>C</b> Clear <b>R</b> Red
<b>H</b>  4.8 x 0.8*	<b>1552</b> HP rating N/A <b>1553</b> Not W, X or B rocker					
<b>K</b>  2.0 x 1.2 2.8 x 0.8*	<b>1561 μ</b> HP rating N/A <b>1562 μ</b> In house tests only					
<b>T</b>  Ø2.1 Solder	<b>1570 μ</b> 125V & 250V 1/2 HP H terminal rated T100 only terminal rated T100 only					
<b>U</b>  Ø2.1 Right angle T Solder (Not DP)	<b>1571 μ</b> HP rating N/A H terminal rated T100 only <b>1572 μ</b> HP rating N/A H terminal rated T100 only					
<b>X</b>  Ø2.1 PCB 0.8Sq* *Contact sales for details on 1350 series	<b>High Inrush 1350</b> Not W, X or B rocker <b>1353</b> Not W, X or B rocker <b>High Inrush 1300</b> ON - OFF	 ON - OFF  ON - OFF Lit				

## Approvals and specifications cont..

### In house test:

10A 24Vdc—Indicative rating only

 **UL 20A 250Vac 1hp, 125Vac 1/2hp.**  
UL 72Vdc 7A, 36Vdc 14A, UL 85°C.

### In house test:

20A 24Vdc—Indicative rating only

3mm contact gap except if marked  $\mu$

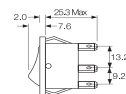
## Splash Resistance



### 1350 High inrush, positive break switching

The 1350 series mechanism ensures contact welds formed at switch-on are positively separated by the plunger tube acting directly on the step in the moving contact.

## Dimensions



### Panel thickness


G, H 0.75 to 2.5mm

Terminal spacing - Contacts 10.2 between centres

Insert Colour	Lamp Voltage	Legend	Legend Colour	Options
Blank	Blank	Blank	Blank	<a href="#">Finish</a> Matt is standard.
<b>R</b> Red	<b>2</b> 125V Neon	<b>602A</b>	<b>B</b> Black	<a href="#">Colour</a> Call sales for custom colours. A full range is available for large orders.
<b>W</b> White	<b>3</b> 250V Neon		<b>W</b> White	<a href="#">Legend printing</a> Select from the examples or call sales for custom legends.
	<b>5</b> 12Vdc LED (P Rocker)			<a href="#">Lamp voltage</a> Call sales for details.
	<b>6</b> 24Vdc LED (P Rocker)			
	<b>7</b> 12V Filament			
	<b>8</b> 24Vdc Filament			

## Examples



 C1553AH - - -



 C1550AH - - -

# R13 Round Rocker Switches

10A 250Vac



## Key Features

- ⬡ Miniature round rocker switch
- ⬡ Ratings up to 10A, 250Vac
- ⬡ Single & double Contact
- ⬡ Illuminated & nonilluminated, neon and LED
- ⬡ Choice of actuators
- ⬡ Matching indicator
- ⬡ Panel cut out: 20.2 dia.

## Approvals and specifications

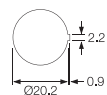
### RoHS compliant

Single Contact has  $\mu$  contact gap.

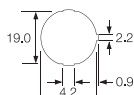
### Special products

Are made to order and can be supplied with a range of body and rocker / lens colours, print & lamp voltage.

## Dimensions

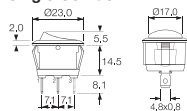


Snap fixing into 2.0 to 3.0mm panels

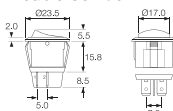


Snap fixing into 0.7 to 3.0mm panels

### Single Contact



### Double Contact

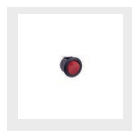


### Protective cover L188



Snap on to bodies (not R13 211 or R13 112LP), this reduces maximum acceptable panel thickness to 2.4mm.

## Examples



R13 112B NAA



R13 112A AAA



R13 112A2 ---

**R13 / 112 / A / B / B / 3 / 2 / 602A / W / L188**

Series

Type

Function

Body Colour

Rocker Colour

Insert Colour

Lamp Voltage

Legend

Legend Colour

Legend Colour

## Product details



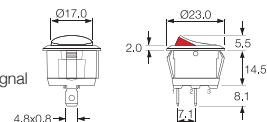
1 2  
SP ON - OFF  $\mu$   
**Cat no.**  
**R13 112A AAA**



1 2 3  
SP ON - OFF  $\mu$   
Lit 230V  
**Cat no.**  
**R13 112B NAC**



1 2  
SP ON - OFF  $\mu$   
Bright colour ON signal  
**Cat no.**  
**R13 112A2 - -**



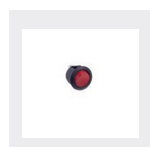
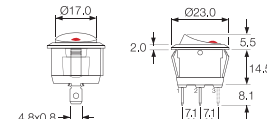
1 2  
SP ON - OFF  $\mu$   
**Cat no.**  
**R13 112A AAB**



1 2 3  
SP ON - ON  $\mu$   
**Cat no.**  
**R13 112C AAA**



1 2 3  
SP ON - OFF  $\mu$   
Lit Window  
**Cat no.**  
**R13 112B2 - -**



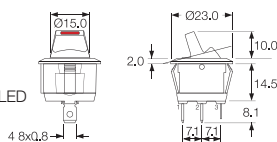
1 2 3  
SP ON - OFF  $\mu$   
Lit 230V  
**Cat no.**  
**R13 112B NAA**



1 2 3  
SP ON - OFF - ON  $\mu$   
**Cat no.**  
**R13 112D AAA**



12 3- 3+  
SP ON - OFF  $\mu$   
Paddle tip has red LED  
**Cat no.**  
**R13 112LP - -**



1 2 3  
SP ON - OFF  $\mu$   
Lit 230V  
**Cat no.**  
**R13 112B NAB**



SP ON - OFF  $\mu$   
(Momentary ON)  
**Cat no.**  
**R13 208F AAA\***



1 2  
DP ON - OFF  
**Cat no.**  
**R13 244A AAA**



DP ON - OFF  
Lit 230V  
**Cat no.**  
**R13 244B NAA**

Well known for their quality and reliability, **Bulgin's toggle switches** are **cost effective** solutions to many existing applications. These switches offer features at an attractive price point often well below that of the existing competition.

- ⊞ Nylon and Metal switch variants
- ⊞ Multiple Lever Options
- ⊞ Ratings up to 20A, 250V ac - 277V ac
- ⊞ IP67 panel seal versions, supplied complete with gaskets (3900 Series – All Variants)
- ⊞ Single and double Contact
- ⊞ Choice of circuit options including 3 position and momentary
- ⊞ Mounting hole: 12.2mm diameter.
- ⊞ Sealing accessories available
- ⊞ Quick Connect, Solder, Screw and PCB Termination Options



# 3900 Metal Toggle Switches

16A 250Vac - IP67 Sealed Versions



## Key Features

- Metal toggle switches
- Ratings up to 20A, 277V ac
- Single and double Contact
- Choice of circuits including 3 position and momentary
- Sealed version supplied complete with gaskets
- Panel seal version to IP67
- 6.3mm terminals
- Guard option

Terminal	Function	Actuator	Body	Options
<p><b>C</b></p> <p>6.3 x 0.8</p> <p><b>S</b></p> <p>Screw &amp; Clamp</p> <p><b>T</b></p> <p>Solder</p>	<p><b>Single Contact</b></p> <p><b>3900</b> ON - OFF</p> <p><b>3901</b> ON - OFF (momentary ON)</p> <p><b>3902</b> ON - OFF (momentary OFF)</p> <p><b>3910</b> ON - ON</p> <p><b>3911</b> ON - ON (momentary 1 side)</p> <p><b>3920</b> ON - OFF - ON μ</p> <p><b>3921</b> ON - OFF - ON μ (momentary 1 side)</p> <p><b>3922</b> ON - OFF - ON μ (momentary 2 sides)</p> <p><b>Double Contact</b></p> <p><b>3950</b> ON - OFF</p> <p><b>3951</b> ON - OFF (momentary ON)</p> <p><b>3952</b> ON - OFF (momentary OFF)</p> <p><b>3960</b> ON - ON</p> <p><b>3961</b> ON - ON (momentary 1 side)</p> <p><b>3970</b> ON - OFF - ON μ</p> <p><b>3971</b> ON - OFF - ON μ (momentary 1 side)</p> <p><b>3972</b> ON - OFF - ON μ (momentary 2 sides)</p>	<p><b>A</b></p> <p>Metal toggle finish is nickel plate</p> <p><b>B</b></p> <p>Metal toggle finish is nickel plate</p> <p><b>D</b></p> <p><b>E</b></p> <p>Metal toggle finish is nickel plate</p> <p><b>F</b></p> <p>Metal toggle finish is nickel plate</p>	<p><b>A</b> Single Contact Thread: 15/32" x 32TPI</p> <p><b>E</b> Panel sealed, single Contact Thread: 15/32" x 32TPI</p> <p><b>A</b> Double Contact, without barrier Thread: 15/32" x 32TPI</p> <p><b>B</b> Double Contact, with barrier Thread: 15/32" x 32TPI</p> <p><b>F</b> Panel sealed, double Contact, with terminal barrier Thread: 15/32" x 32TPI</p> <p>Switches with F toggles have double Contact bodies, regardless of circuit</p> <p><b>G</b> Panel sealed, double Contact, without terminal barrier Thread: 15/32" x 32TPI</p>	<p>Neck Seal M539 Actuator is visible</p> <p>Cover M1080</p> <p>Covers have internal nylon nuts</p> <p>M1080-2</p> <p>Covers have internal metal hex nuts</p> <p>Fixing nuts Nickel plated brass are supplied</p> <p>Knurled Front nut Panel thickness 4.0 with backnut</p> <p>Plate P236 Plate SP or DP</p>

## Approvals and specifications

ENEC approval currently pending  
16A, 277Vac  
1 HP, 250Vac

7A, 72Vdc  
14A, 36Vdc

3910, 3901, 3952, 3960, 3961, 3970, 3971, 3972  
16A, 277Vac  
1 HP, 250Vac  
1/2 HP, 125Vac  
7A, 72Vdc  
14A, 36Vdc

3900, 3950  
20A, 277Vac  
1 HP, 250Vac  
1/2 HP, 125Vac  
7A, 72Vdc  
14A, 36Vdc

ENEC Ratings  
3900, 3901, 3902, 3950, 3952, 3960, 3961  
16(4)A 250Vac

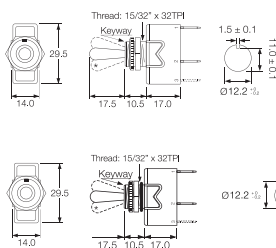
3910, 3911, 3920, 3921, 3922, 3951, 3970, 3972  
10 4)A 250Vac

Approvals and ratings vary with function.  
3mm contact gap except where marked  $\mu$ .

## Dimensions mm) \* Indicates ON position (for ON - OFF switches)

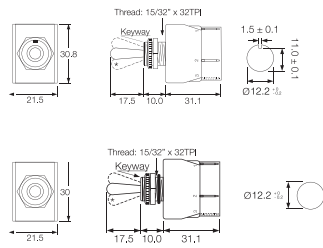
### Single Contact

(C terminals shown)



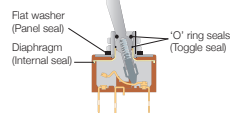
### Double Contact

(C terminals shown with barrier)



### Toggle Switch - sealed version

BE and BF types



### Guard TG1-RED



## Examples



C3900BE ---



C3920BA ---



C3950BF ---



C3972BB ---





## Key Features

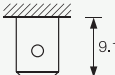





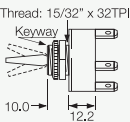

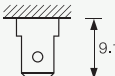


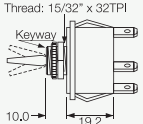

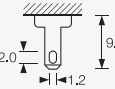




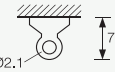

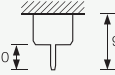



- Nylon toggle switches
- Ratings up to 20A, 250V ac
- Single and double Contact
- Wide choice of terminals
- Choice of circuit options including 3 position
- Flat & round actuator options

## Approvals and specifications

16(4)A 250Vac T85 (ENEC approval pending)

UL 20A 250Vac Non Ind (Single Contact)  
 UL 16A 250Vac Non Ind (Double Contact)  
 UL (2 pos types) 250Vac 1hp, 125Vac 1/2hp  
 UL (3 pos types) 250Vac 1/2hp, 125Vac 1/4hp  
 UL 85°C  
 UL N/A on momentary types

Selective "A, B, C" and "OFF, A, A+B" circuits at 5 amp also available.  
 3mm contact gap except where marked  $\mu$ .

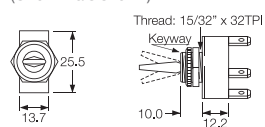
Terminal	Function	Actuator	Body	Options	
<div>C</div> 	<div> Single Contact</div> <div><b>1700</b> ON - OFF </div>	<div> Double Contact</div> <div><b>1750</b> ON - OFF </div>	<div>H</div> 	<div>O Single Contact</div> <div>Thread: 15/32" x 32TPI </div>	<div>Neck Seal M539</div> <div>Material - Nitrile (H &amp; R Actuators) Actuator visible</div> 
<div>H</div> 	<div><b>1710 <math>\mu</math></b> ON - ON </div>	<div><b>1760 <math>\mu</math></b> ON - ON </div>		<div>O Double Contact</div> <div>Thread: 15/32" x 32TPI </div>	<div>Cover M1080</div> <div>Material - EPDM (R Actuator only)</div> 
<div>K</div> 	<div><b>1720 <math>\mu</math></b> ON - OFF - ON </div>	<div><b>1770 <math>\mu</math></b> ON - OFF - ON </div>	<div>R</div> 		<div>Cover M531</div> <div>Material - PVC (R Actuator only)</div> 
<div>T</div> 			<div>Panel hole (all types)</div> <div>Panel thickness (Max) Both nuts - 3.5mm Less backnut - 6.5mm</div>	<div>Covers have internal nylon nuts</div> <div>Fixing nuts (Standard is M506 &amp; T92)</div> 	
<div>X</div> 	<div><b>1721 <math>\mu</math></b> ON - OFF - ON <math>\mu</math> (momentary 1 side) </div>	<div><b>1722</b> ON - OFF - ON <math>\mu</math> (momentary 2 sides) </div>	<div>The switch is on between centre terminals (2 &amp; 5) and the terminals over which the lever is positioned.</div>	<div>T5 Hex brass M506 Hex nylon T92 Knurled brass - slotted M279 Knurled nylon</div> 	

## Dimensions

mm) \* Indicates ON position (for ON - OFF switches)

### Single Contact

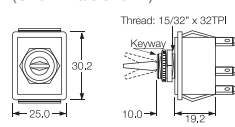
(C terminals shown)



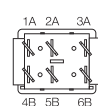
Optional  
F00232PAAA  
plate SP or DP

### Double Contact

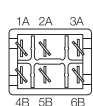
(C terminals shown)



#### Without barrier



#### With barrier



## Examples



C1700R --



C1700H --



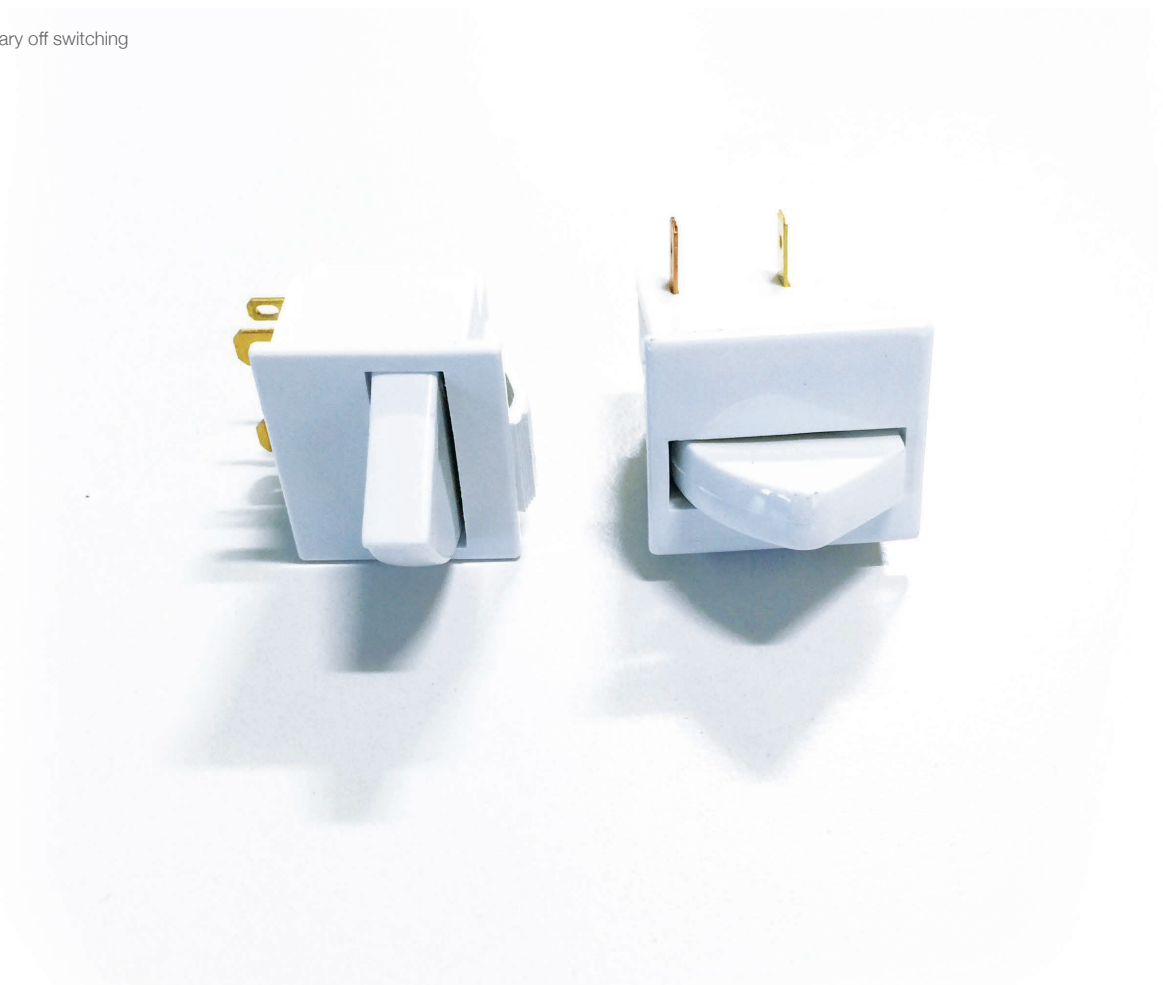
C1760R --



C1750H --

Long recognised as a leader in refrigerator door switches, Bulgin's wide range of types and configurations will suit almost any need. With both double contact and single contact options, our switches are not only ideal for traditional refrigerator and freezer applications but can and have been used in a variety of door applications as well.

- ⬡ Door switches
- ⬡ Switch rating from 0.2A, 250V ac up to 5A, 250Vac
- ⬡ Splash resistant variants
- ⬡ Choice of actuators
- ⬡ Momentary on and momentary off switching





Key Features

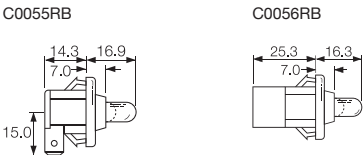
- ⬡ Ratings up to 0.2A, 250V ac
- ⬡ High temperature rating up to 125°C
- ⬡ Long overtravel
- ⬡ Choice of terminal orientation

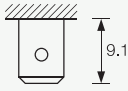



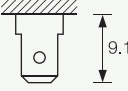


Approvals and specifications

☑ 0055 & 0056  
0.2(0.2)A 250Vac 25T125 5E4  
(50,000 operations)

μ contact gap

Dimensions and Properties



Terminal	Function	Actuator	Body	Options
<b>C</b>  6.3x0.8	<b>0055</b>  ON - OFF (momentary OFF) 90° terminals	<b>R</b> 	<b>B</b> Panel cut - out  Panel thickness 0055 1.0 - 1.6 0056 1.0 - 2.6	<b>Finish</b> Gloss finish only  <b>Colour</b> White or black Call sales for custom colours.
<b>H</b>  4.8x0.8	<b>0056</b>  ON - OFF (momentary OFF) straight terminals		<b>Flange</b> 	

# 3005 Refrigerator Door Switches

Splash Resistant



### Key Features

- Door switches
- Momentary on and momentary off switching
- Splash resistant
- Choice of terminal orientation
- Choice of actuators

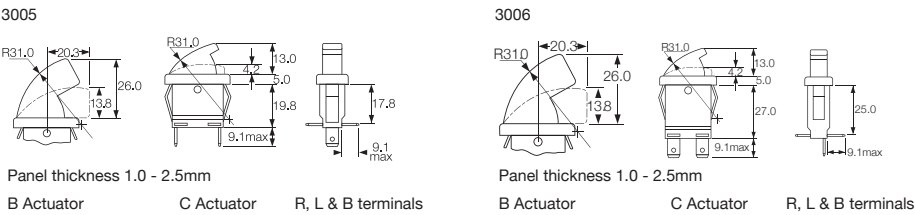
### Approvals and specifications

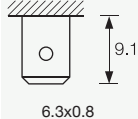

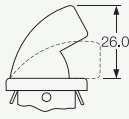

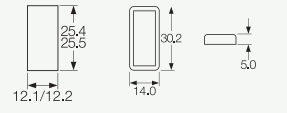
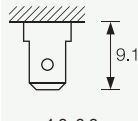

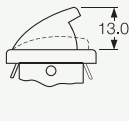
3005 25W 25T85 5E4 (50,000 Operations) 250Vac  
3006 65W 25T85 5E4 (50,000 Operations) 250Vac  
(ENEC approval pending)

UL 0.3A 250Vac (Black Versions Only)  
UL 0.2A 125Vac (Black Versions Only)

μ contact gap

### Dimensions and Properties



Terminal	Function	Actuator	Body	Options
<b>C</b>  6.3x0.8	<b>3005</b>  ON - OFF (momentary OFF) 1mm max travel to OFF position	<b>B</b> 	<b>R</b> <b>L</b> <b>B</b>  Terminal direction (viewed from hinge end)  Panel cut - out   Bezel   Bezel Profile 	<b>Finish</b> Gloss finish only  <b>Colour</b> White or black Call sales for custom colours. A full range is available for large orders.
<b>H</b>  4.8x0.8	<b>3006</b>  ON - OFF (momentary ON) 3mm min travel to ON position	<b>C</b> 		

# 3100 Refrigerator Door Switches

Splash resistant



### Key Features

- Door switches
- Ratings up to 5A, 250V ac
- Splash resistant
- Changeover, momentary ON and momentary OFF
- Choice of actuators

### Approvals and specifications

5A 250Vac 25T85 5E4 (50,000 Operations)

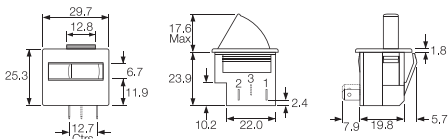
UL 5A 250Vac  
UL 85°C, file E45221

μ contact gap.  
Sealed terminals option available.

### Dimensions and Properties

3101 uses terminals 1,2  
3102 uses terminals 1,2  
3111 uses terminals 1,2,3

For details of actuator travel and switching angles call sales.



Terminal	Function	Actuator	Body	Colour	Options
<b>E</b> 	 <b>3101</b>  ON - OFF (momentary CLOSED)  <b>3102</b>  ON - OFF (momentary OFF)  <b>3111</b>  ON - ON (momentary 1 side)	<b>A</b>  <b>B</b>  <b>C</b>  <b>D</b> 	<b>A</b> 	<b>W</b> White  <b>B</b> Black  <b>PW</b> Polar White	<b>Finish</b> Gloss finish only  <b>Colour</b> White or black Call sales for custom colours. A full range is available for large orders.

# 3100 ATEX Refrigerator Door Switches



## Key Features

- ATEX Rated up to 2.5A, 250Vac
- Splash resistant
- Changeover, momentary ON and momentary OFF
- Choice of actuators & colours

## Approvals and specifications

- Ex** ATEX Approved for hazardous locations  
2.5A 250Vac  
Compiles with:  
EN IEC 60079-0 & 60079-15  
Ex II 3 G & Ex nC IIA Gc  
Type Examination Certificate no. UL 22 ATEX 2897U

- 5A** 250Vac (Standard location only)  
25T85 5E4 (50,000 Operations)

- UL** 5A 250Vac (Standard location only)  
UL 85°C

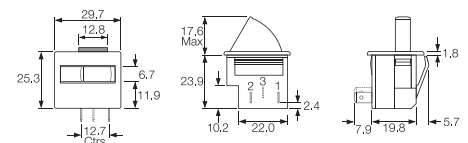
## Dimensions and Properties

3101 uses terminals 1,2  
3102 uses terminals 1,2  
3111 uses terminals 1,2,3

μ contact gap.

For details of actuator travel and switching angles call sales.

Finish: Gloss finish only



Terminal	Function	Actuator	Body	Colour	Options	Approval
<b>E</b> 	 <b>3101</b>  <b>3102</b>  <b>3111</b> 	<b>A</b>  <b>B</b>  <b>C</b>  <b>D</b> 	<b>A</b> 	<b>W</b> White  <b>B</b> Black  <b>P</b> Polar White  Call sales for custom colours. A full range is available for large orders.	<b>A</b> Standard  Call sales for plated contacts and sealed terminal options.	<b>EX</b> ATEX Approved

Part Code System

<b>E</b>	<b>31XX</b>	<b>X</b>	<b>A</b>	<b>X</b>	<b>X</b>	<b>X</b>
Terminal	Function	Actuator Type	Body	Colour	Options	Approval
E	3101 3102 3111	A B C D	A	W B P	A	EX



- ⬢ Door switches
- ⬢ Ratings up to 5A, 250V ac
- ⬢ Splash resistant
- ⬢ Momentary action
- ⬢ Choice of actuators
- ⬢ 2 circuit switch

 5A 250Vac 25T85 5E4 (50,000 Operations)

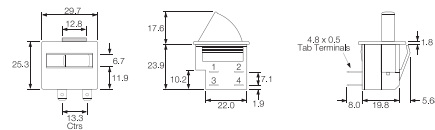


Sealed terminals option available.

3141 uses terminals  
1,2,3,4

3145 uses terminals 3,4

3146 uses terminals 1,2



Terminal	Function	Actuator	Body	Colour	Options
<p><b>H</b></p> <p>4.8x0.8</p> <p><b>K</b></p> <p>2.8x0.8</p> <p>Standard format is H terminals in positions 1 &amp; 2 and K terminals in positions 3 &amp; 4 For sealed terminals call sales</p>	<p><b>3141</b></p> <p>ON - ON (momentary)</p> <p><b>3145</b></p> <p>ON - OFF (momentary OFF)</p> <p><b>3146</b></p> <p>ON - OFF (momentary ON)</p>	<p><b>A</b></p> <p><b>B</b></p> <p><b>C</b></p> <p><b>D</b></p>	<p><b>A</b></p>	<p><b>W</b></p> <p>White</p> <p><b>B</b></p> <p>Black</p> <p><b>PW</b></p> <p>Polar White</p>	<p><b>Finish</b> Gloss finish only</p> <p><b>Colour</b> White or black Call sales for custom colours. A full range is available for large orders.</p>



# 3140 ATEX Refrigerator Door Switches



### Key Features

- ATEX Rated up to 2.5A, 250Vac
- Splash resistant
- Momentary action
- Choice of actuators & colours
- 2 circuit switch

### Approvals and specifications

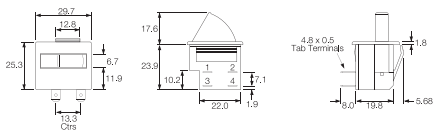
- ATEX Approved for hazardous locations**  
2.5A 250Vac  
Compiles with:  
EN IEC 60079-0 & 60079-15  
Ex II 3 G & Ex nC IIA Gc  
Type Examination Certificate no. UL 22 ATEX 2897U
- 5A 250Vac (Standard location only)**  
25T85 5E4 (50,000 Operations)
- UL 5A 250Vac (Standard location only)**  
UL 85°C

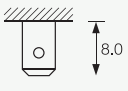
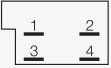

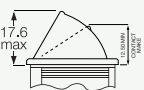
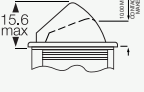

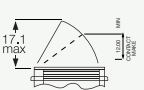
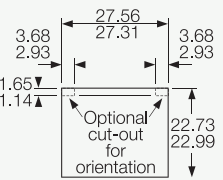
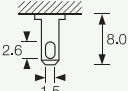


### Dimensions and Properties

3141 uses terminals 1,2,3,4  
3145 uses terminals 3,4  
3146 uses terminals 1,2

3141,  $\mu$  contact gap.  
3145 and 3146, 3mm contact gap.

Finish: Gloss finish only



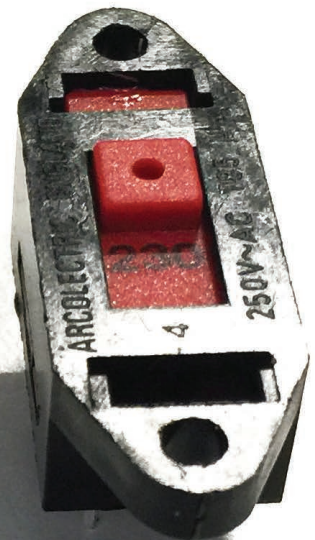
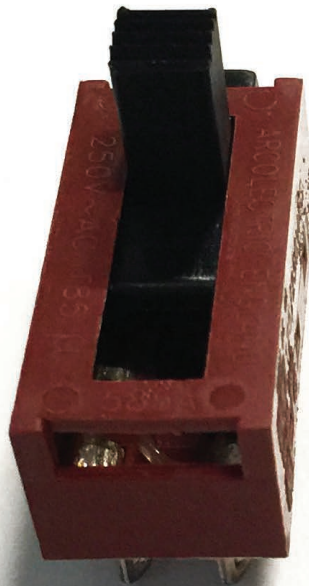
Terminal	Function	Actuator	Body	Colour	Options	Approval
<b>H</b>  4.8x0.8	 <b>3141</b>  ON - ON (momentary)	<b>A</b>  <b>B</b>  <b>C</b>  <b>D</b> 	<b>A</b>  Optional cut-out for orientation	<b>W</b> White  <b>B</b> Black  <b>P</b> Polar White	<b>A</b> Standard	<b>EX</b> ATEX Approved
<b>K</b> 3141 Only  2.8x0.8	<b>3145</b>  ON - OFF (momentary OFF)  <b>3146</b>  ON - OFF (momentary ON)			Call sales for custom colours. A full range is available for large orders.	Call sales for plated contacts and sealed terminal options.	

### Part Code System

X	314X	X	A	X	X	X
Terminal	Function	Actuator Type	Body	Colour	Options	Approval
HK (3141 only) H	3141 3145 3146	A B C D	A	W B P	A	EX

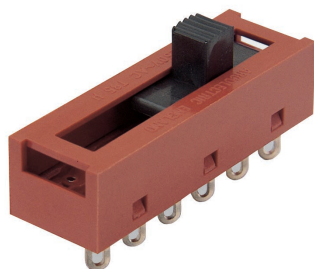
With up to 5 switching positions as well as multiple terminal, circuit and slider options, Bulgin's board mounted power slide switches can be configured to suit your needs. We also offer a wide range of voltage selector types that can be either snapped into a panel or flange mounted.

- ⊗ Ratings up to 16A, 250V ac
- ⊗ PCB and solder terminals
- ⊗ Voltage Selector Models
- ⊗ Snap in and flange mounting
- ⊗ 2, 3, 4 and 5 position
- ⊗ Choice of circuits
- ⊗ Choice of actuators



# 2000 Slide Switches - up to 5 position

10A 250Vac



## Key Features

- Slide switches
- Ratings up to 16A, 250V ac
- PCB and solder terminals
- 2, 3, 4 and 5 position
- Choice of circuits
- Choice of actuators

## Approvals and specifications

10A 250Vac T85  
6(3)A 250Vac T85 (ENEC approval pending)

UL 16A 250Vac Non Inductive  
UL 4A 300Vac  
UL 65°C

μ contact gap  
Please specify: Standard action (SP116) or Light action (SP118).  
2000 series lubrication is inorganic and does not degrade plastics.

Terminal	Series	Position	Circuit	Slider
<div><b>K</b>  2.8 x 0.8</div> <div><b>R</b>  2.8 x 0.8</div> <div><b>T</b>  Solder</div> <div><b>X</b>  PCB 0.8 Sq.</div> <div><b>Y</b>  PCB 0.8 Sq. <small>For mounting stability switches have extra "support" terminals</small> <small>* Nominal - Dimension varies with body type. For exact figure call sales</small></div>	<b>2</b>	<b>2</b> Switching positions	<div><b>10</b> </div> <div><b>20</b> </div> <div><b>30</b> </div> <div><b>40</b> </div> <div><b>10</b> </div> <div><b>20</b> </div> <div><b>30</b> </div> <div><b>40</b> </div> <div><b>10</b> </div> <div><b>20</b> </div> <div><b>30</b> </div> <div><b>40</b> </div> <div><b>10</b> </div> <div><b>20</b> </div> <div><b>30</b> </div> <div><b>40</b> </div>	<div><b>0</b> </div> <div><b>1</b> </div> <div><b>2</b> </div> <div><b>3</b> </div> <div><b>4</b> </div> <div><b>5</b> </div> <div><b>6</b> </div> <div><b>7</b> </div> <div><b>9</b> </div> <div><b>A</b> </div> <div><b>B</b> </div> <div><b>C</b> </div> <div><b>D</b> </div> <div><b>E</b> </div> <div><b>G</b> </div> <div><b>H</b> </div> <div><b>J</b> </div> <div><b>K</b> </div> <div><b>L</b> </div> <div><b>N</b> </div> <div><b>P</b> </div> <div><b>R</b> </div> <div><b>S</b> </div> <div><b>T</b> </div>

## Examples



X22205C ---



T2220EC ---



T23206A ---







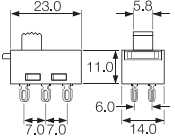
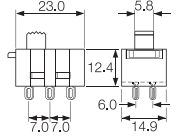
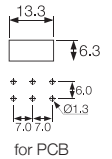
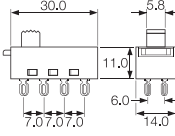
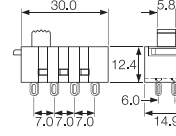
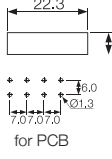
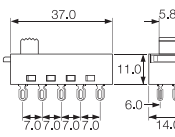
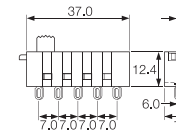
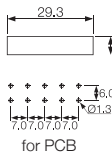
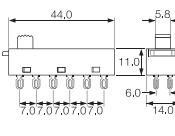
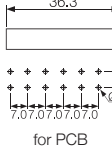
T24306A ---



T25302A ---

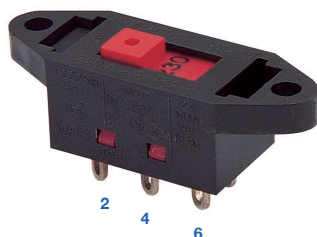


T25100A ---

Body		Options	Dimensions		
<p><b>C</b> 2 positions    <b>H</b> 2 positions</p>    		<p><b>Colour</b> Call sales for custom colours. A full range is available for large orders.</p> <p><b>Legend printing</b> A wide range is available For all options call sales</p>	<p><b>C</b> 2 positions</p> 	<p><b>H</b> 2 positions</p> 	<p><b>Cut-out /PCB Matrix</b></p> 
			<p><b>A</b> 3 positions</p> 	<p><b>H</b> 3 positions</p> 	<p><b>Cut-out /PCB Matrix</b></p> 
			<p><b>A</b> 4 positions</p> 	<p><b>H</b> 4 positions</p> 	<p><b>Cut-out /PCB Matrix</b></p> 
			<p><b>A</b> 5 positions</p> 		<p><b>Cut-out /PCB Matrix</b></p> 

# 2000 Slide Switches - Snap fit and panel mount

10A 250Vac



115/230 is preferred legend

## Key Features

- 2 way 'voltage selector'
- Ratings up to 16A, 250V ac
- Snap fit and panel mount
- PCB & solder terminals
- 2 and 3 position
- Choice of circuits
- Choice of actuators

## Approvals and specifications


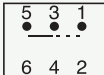
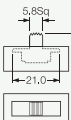
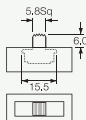
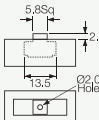
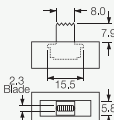

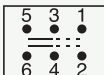
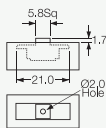
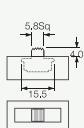
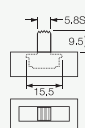
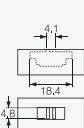

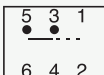
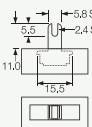
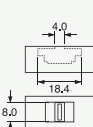
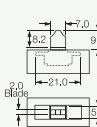
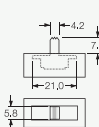

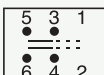
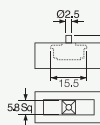
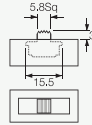
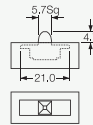
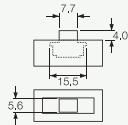
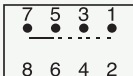
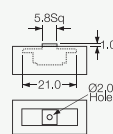
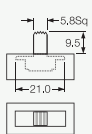
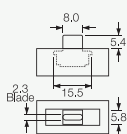
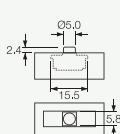
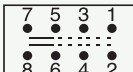
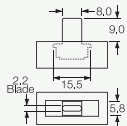
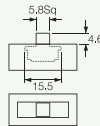
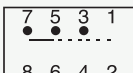
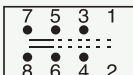
10A 250Vac T85  
6(3)A 250Vac T85 (ENEC approval pending)

UL 16A 250Vac Non Inductive  
UL 4A 300Vac  
UL 65°C

μ contact gap

Please specify: Standard action (SP116) or Light action (SP118).

2000 series lubrication is inorganic and does not degrade plastics.

Terminal	Series	Position	Circuit	Slider			
<div><b>K</b>  2.8 x 0.8</div>	<b>2</b>	<b>2</b> Switching positions	<b>10</b> 	<b>0</b> 	<b>6</b> 	<b>C</b> 	<b>L</b> 
<div><b>R</b>  2.8 x 0.8</div>			<b>20</b> 	<b>2</b> 	<b>7</b> 	<b>D</b> 	<b>M</b> 
<div><b>T</b>  Solder</div>			<b>30</b> 	<b>3</b> 	<b>8</b> 	<b>E</b> 	<b>N</b> 
<div><b>X</b>  PCB 0.8 Sq. For mounting stability switches have extra "support" terminals <small>* Nominal - Dimension varies with body type. For exact figure call sales</small></div>			<b>40</b> 	<b>4</b> 	<b>9</b> 	<b>H</b> 	<b>P</b> 
	<b>3</b> Switching positions	<b>3</b> Switching positions	<b>10</b> 	<b>5</b> 	<b>A</b> 	<b>K</b> 	<b>R</b> 
			<b>20</b> 	<b>S</b> 	<b>T</b> 		
			<b>30</b> 				
			<b>40</b> 				

## Examples



T22208E ---



T22308E ---



T2230MF ---



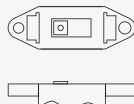
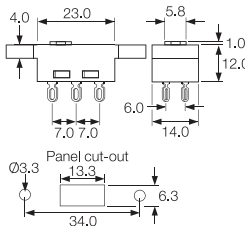
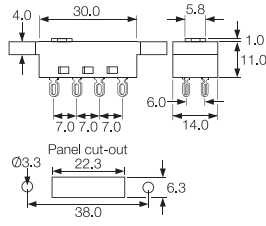
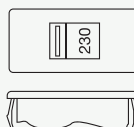
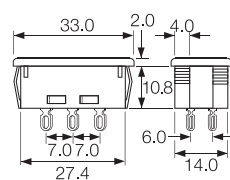
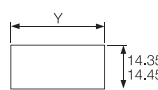
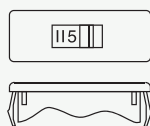
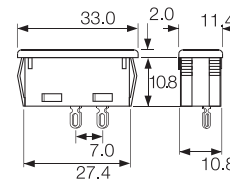
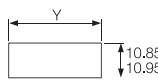
T22205B ---



T22305B ---



T23204B ---

Body	Options	Dimensions											
<div><b>B</b></div> <div>With mounting holes</div> <div></div>	<div><b>Colour</b></div> <div>Call sales for custom colours. A full range is available for large orders. Standard body colour is black.</div>	<div><b>2</b> Pos B</div> <div></div>	<div><b>3</b> Pos B</div> <div></div>										
<div><b>E</b></div> <div>Snap fit</div> <div></div>		<div><b>2</b> Pos E</div> <div></div>	<div></div> <div><table><tr><td>Panel thickness</td><td>Dim. Y</td></tr><tr><td>0.8-1.2</td><td>29.75/29.85</td></tr><tr><td>1.63</td><td>30.15/30.25</td></tr><tr><td>2.0</td><td>30.35/30.45</td></tr><tr><td>2.5</td><td>30.55/30.65</td></tr></table></div>	Panel thickness	Dim. Y	0.8-1.2	29.75/29.85	1.63	30.15/30.25	2.0	30.35/30.45	2.5	30.55/30.65
Panel thickness		Dim. Y											
0.8-1.2	29.75/29.85												
1.63	30.15/30.25												
2.0	30.35/30.45												
2.5	30.55/30.65												
<div><b>F</b></div> <div>Snap fit single contact ON OFF only)</div> <div></div>	<div><b>2</b> Pos F</div> <div></div>	<div></div> <div><table><tr><td>Panel thickness</td><td>Dim. Y</td></tr><tr><td>0.8-1.2</td><td>29.75/29.85</td></tr><tr><td>1.63</td><td>30.15/30.25</td></tr><tr><td>2.0</td><td>30.35/30.45</td></tr><tr><td>2.5</td><td>30.55/30.65</td></tr></table></div>	Panel thickness	Dim. Y	0.8-1.2	29.75/29.85	1.63	30.15/30.25	2.0	30.35/30.45	2.5	30.55/30.65	
Panel thickness	Dim. Y												
0.8-1.2	29.75/29.85												
1.63	30.15/30.25												
2.0	30.35/30.45												
2.5	30.55/30.65												

Manufactured from quality moulding and metal components to ensure a secure and reliable connection, Bulgin's battery holder range caters for battery sizes AAA(R03), AA(R6), C(R14), D(R20) and PP3(6R61), accommodating 1, 2, 3 or 4 cells.



There's a choice of fixing styles including screw and flange panel fixing, PCB and base mounting versions.

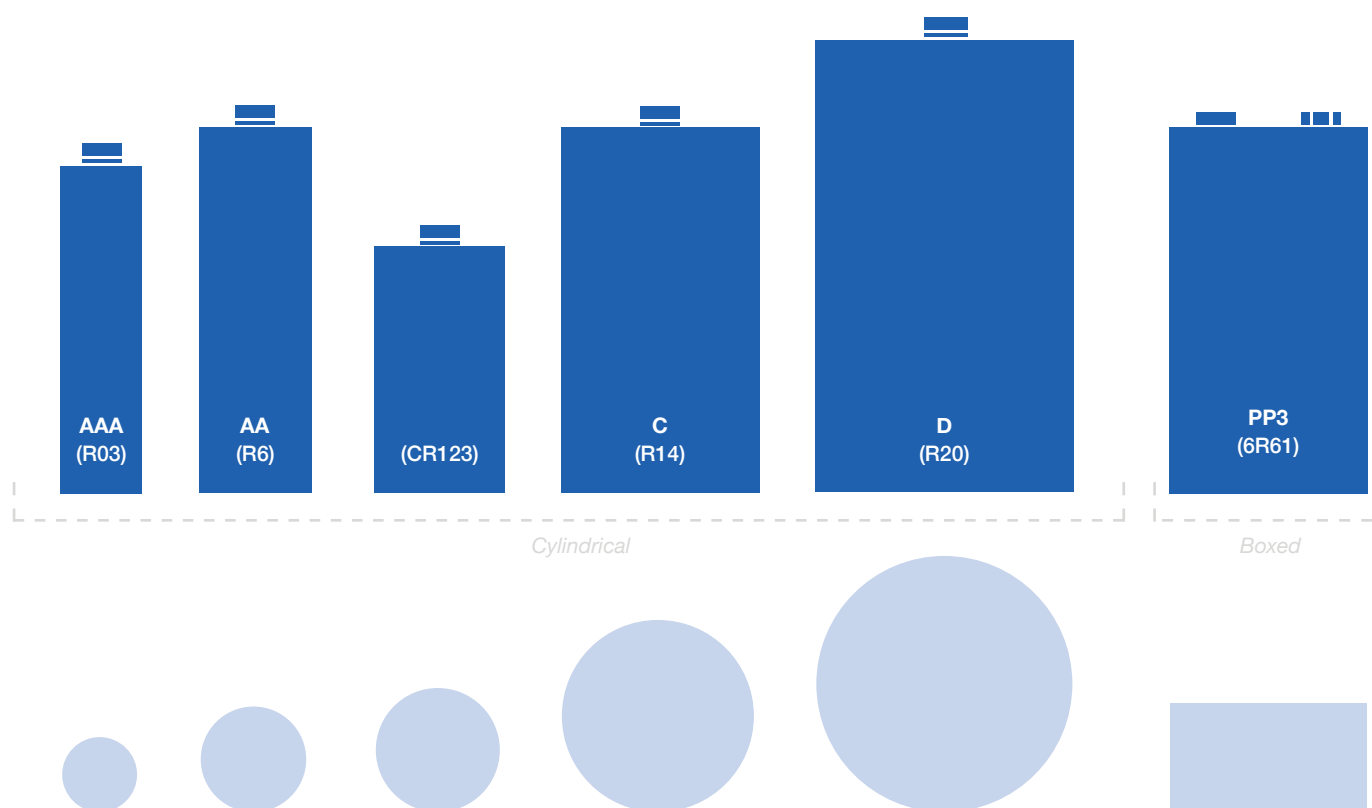
The panel mounting versions are now available in two styles; standard fixing and front panel sealed to IP67, extending the applications into harsher external environments where dust or water would inhibit equipment operation.

The open frame styles are designed to be either PCB or base mounted and most have an interlocking facility to join adjacent holders together.

Principle applications include portable equipment and memory back-up.

Front panel sealed to IP67	105
Panel Mounting	106
PCB/Base Mounting	108

Battery size	Battery Dimensions	No. of Cells	Mounting	Part No.
AAA (R03)	Ø10.5 x 44.5	1	PCB/Base	BX0034
AA (R6)	Ø14.5 x 50.5	1	PCB/Base	BX0035
		1	Panel	BX0011/1
		2	Panel	BX0012/1
		3	Panel	BX0013/1
		4	Panel	BX0027
		1	Panel Sealed	BXS011/1
		2	Panel Sealed Panel	BXS012/1
		3	Sealed	BXS013/1
CR123	Ø17.0 x 34.5	1	PCB/Base	BX0123
C (R14)	Ø26.2 x 50	1	PCB/Base	BX0036
		1	Panel	BX0001/1
		2	Panel	BX0002/1
		3	Panel	BX0003/1
		1	Panel Sealed	BXS001/1
		2	Panel Sealed	BXS002/1
		3	Panel Sealed	BXS003/1
D (R20)	Ø34.2 x 61.5	1	PCB/Base	BX0037
		1	Panel	BX0016
		2	Panel	BX0017
		3	Panel	BX0018
		1	Panel Sealed	BXS016
		2	Panel Sealed	BXS017
		3	Panel Sealed	BXS018
PP3 (6R61)	W26.5 x D17.5 x H48.5	1	PCB/Base	BX0033
		1	Panel	BX0023
		1	Panel	BX0023/GY
		2	Panel	BX0026



As batteries from different manufacturers may vary slightly in size, Dimensions & Drawings are approximate only.  
 All Bulgin Battery Holders have polarity clearly marked.

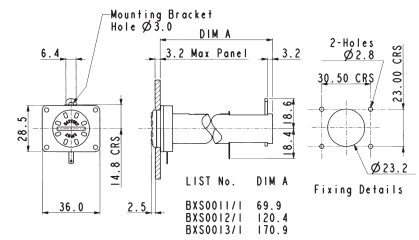


#### AA SIZE BATTERY HOLDER



BXS011/1

- 1, 2 or 3 Cells
- Flanged Panel Mount
- Bayonet with finger/coin slot release
- Supplied with gasket and sealing grommets for screws

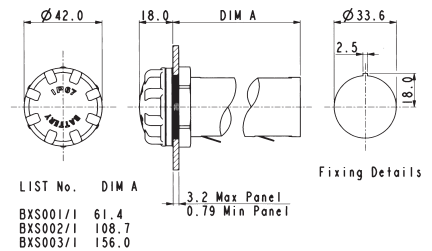


#### C SIZE BATTERY HOLDER



BXS001/1

- 1, 2 or 3 Cells
- Panel Mount
- Screw Cap/Hand release
- Supplied with gasket

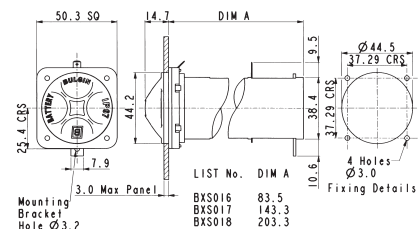


#### D SIZE BATTERY HOLDER



BXS016

- 1, 2 or 3 Cells
- Flanged Panel Mount
- Bayonet/finger release
- Supplied with flange gasket and sealing grommets for screws



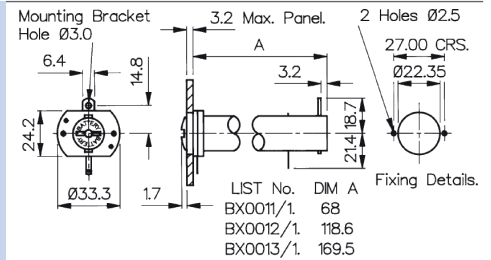
Specification	BXS011/1, BXS012/1, BXS013/1	BXS001/1, BXS002/1, BXS003/1	BXS016, BXS017, BXS018
Battery/Cell Type:	AA (R6)	C (R14)	D (R20)
No. Cells:	BXS011/1 - 1 cell BXS012/1 - 2 cells BXS013/1 - 3 cells	BXS001/1 - 1 cell BXS002/1 - 2 cells BXS003/1 - 3 cells	BXS016 - 1 cell BXS017 - 2 cells BXS018 - 3 cells
Terminations:	2.8 series tabs/solder tags	2.8 series tabs/solder tags	4.8 series tabs/solder tags
Operating Temperature:	-30°C to +70°C	-30°C to +70°C	-30°C to +70°C
Mouldings:	Nylon Glass filled Polyester Polycarbonate	Nylon Glass filled Polyester	Nylon Glass filled Polyester
Flammability Rating:	UL94V-0	UL94V-0	UL94V-0
Contacts:	Brass, Tin Plated - rear contact Nickel Silver, clean - front contact and cap contact plate	Brass, Tin Plated - front and rear contacts Nickel Silver, clean - cap contact plate	Brass, Nickel Plated - front and rear contacts and cap contact plate
Features:	Bayonet cap with finger grip and coin slot Rear support bracket	Screw on cap with finger grip Recommended torque for panel ring 1.13-1.7Nm (10-15lbf.in)	Bayonet cap with finger grip Rear support bracket
Sealing (front of panel):	Protection classification IP67, EN60529:1992+A2:2013	Protection classification IP67, EN60529:1992+A2:2013	Protection classification IP67, EN60529:1992+A2:2013
Notes:	Recommend 2 & 3 cell versions are supported by rear bracket		Recommend 2 & 3 cell versions are supported by rear bracket
<b>RoHS</b>	Compliant	Compliant	Compliant
Dim A (depending on number of cells):	BXS011/1 = 69.9 BXS012/1 = 120.4 BXS013/1 = 170.9	BXS001/1 = 61.4 BXS002/1 = 108.7 BXS003/1 = 156.0	BXS016 = 83.5 BXS017 = 143.3 BXS018 = 203.3

#### AA SIZE BATTERY HOLDER

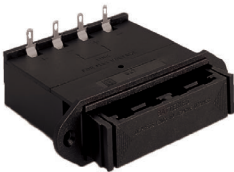


BX0011/1

- 1, 2 or 3 Cells
- Flanged Panel Mount
- Bayonet/Screwdriver release

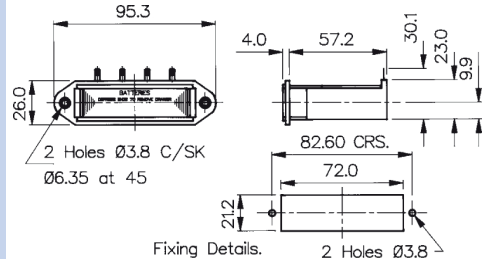


#### AA SIZE BATTERY HOLDER



BX0027

- 4 Cells
- Flanged Panel Mount
- Drawer function

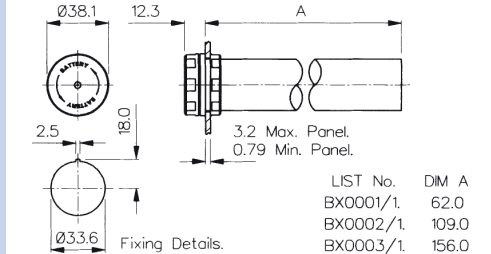


#### C SIZE BATTERY HOLDER



BX0001/1

- 1, 2 or 3 Cells
- Panel Mount
- Screw Cap/Hand release



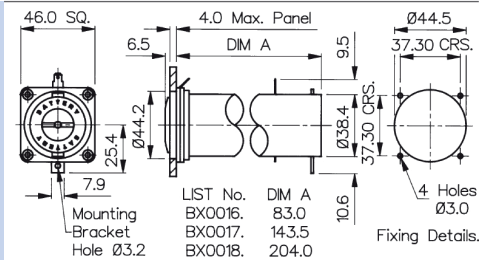
Specification	BX0011/1, BX0012/1, BX0013/1	BX0027	BX0001/1, BX0002/1, BX0003/1
Battery/Cell Type:	AA (R6)	AA (R6)	C (R14)
No. Cells:	BX0011/1 - 1 cell BX0012/1 - 2 cells BX0013/1 - 3 cells	4 cells	BX0001/1 - 1 cell BX0002/1 - 2 cells BX0003/1 - 3 cells
Terminations:	2.8 series tabs/solder tags	4 solder tags (can be wired in series or in pairs)	2.8 series tabs/solder tags
Operating Temperature:	-30°C to +70°C	-30°C to +70°C	-30°C to +70°C
Flammability Rating:	UL94V-0	UL94HB	UL94V-0 (Cap = UL94HB)
Mouldings:	Glass Filled Nylon & Polyester	Glass Filled Nylon	Nylon & Glass Filled Nylon
Contacts:	Brass, Tin Plated Nickel Silver, clean	Phosphor Bronze, Tin Plated Nickel Silver, clean	Nickel Silver, clean Brass, Tin Plated
Features:	Bayonet cap with coin slot Rear support bracket	Removable loading/latching drawer	Screw on cap. Recommended torque for panel ring 1.13-1.7Nm (10-15lbf.in)
Notes:	Recommend 2 & 3 cell versions are supported by rear bracket		
<b>RoHS</b>	Compliant	Compliant	Compliant
Dim A (depending on number of cells):	BX0011/1 = 68 BX0012/1 = 118.6 BX0013/1 = 169.5		BX0001/1 = 62.0 BX0002/1 = 109.0 BX0003/1 = 156.0

#### D SIZE BATTERY HOLDER



BX0016

- 1, 2 or 3 Cells
- Flanged Panel Mount
- Bayonet/Screwdriver release

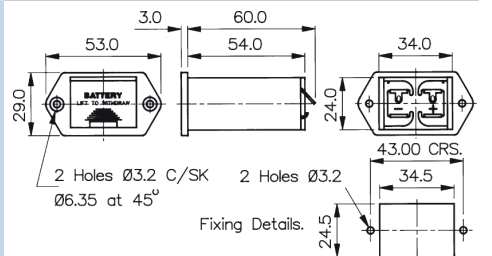


#### PP3 SIZE BATTERY HOLDER



BX0023  
BX0023/GY

- 1 Cell
- Flanged Panel Mount
- Drawer function
- Grey version available (BX0023/GY)

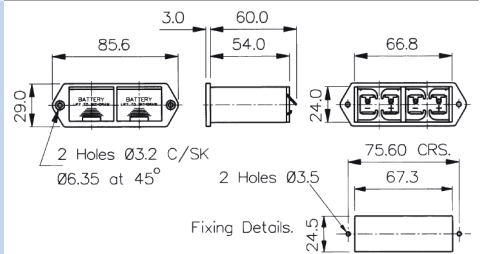


#### PP3 SIZE BATTERY HOLDER



BX0026

- 2 Cell
- Panel Mount
- Screw Cap/Hand release



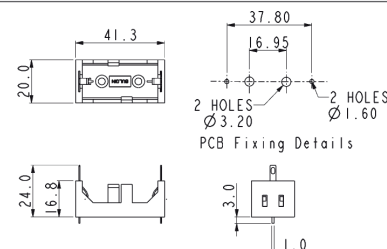
Specification	BX0016, BX0017, BX0018	BX0023, BX0023/GY	BX0026
Battery/Cell Type:	D (R20)	PP3 (6R61)	PP3 (6R61)
No. Cells:	BX0016 - 1 cell BX0017 - 2 cells BX0018 - 3 cells	BX0023 - 1 cell BX0023/GY - 1 cell (grey version)	2 cells
Terminations:	4.8 series tabs/solder tags	Solder tag	Solder tags
Operating Temperature:	-30°C to +70°C	-30°C to +70°C	-30°C to +70°C
Flammability Rating:	UL94V-0 (Cap = UL94HB)	UL94HB	UL94HB
Mouldings:	Nylon & Polycarbonate	Glass Filled Nylon	Glass Filled Nylon
Contacts:	Brass, Nickel Plated	Phosphor Bronze, Tin Plated	Phosphor Bronze, Tin Plated
Features:	Bayonet cap with coin slot Rear support bracket	Removable loading drawer	Removable loading drawer
Notes:	Recommend 2 & 3 cell versions are supported by rear bracket		
RoHS	Compliant	Compliant	Compliant
Dim A (depending on number of cells):	BX0016 = 83.0 BX0017 = 143.5 BX0018 = 204.0		

#### CR123 SIZE BATTERY HOLDER



BX0123

- 1 Cell
- PCB/Base Mount
- Open style

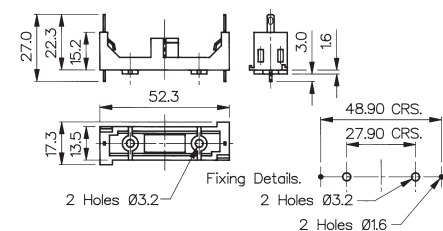


#### AAA SIZE BATTERY HOLDER



BX0034

- 1 Cell
- PCB/Base Mount
- Open style

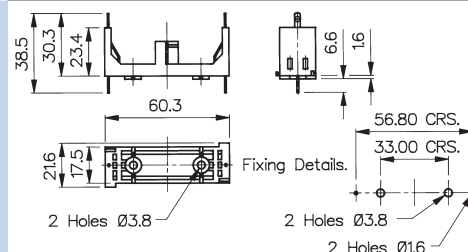


#### AA SIZE BATTERY HOLDER



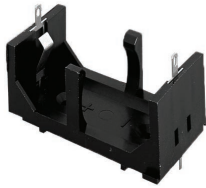
BX0035

- 1 Cell
- PCB/Base Mount
- Open style



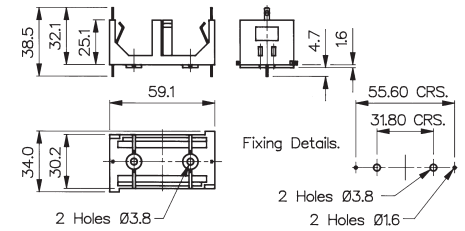
Specification	BX0123	BX0034	BX0035
Battery/Cell Type:	CR123	AAA (R03)	AA (R6)
No. Cells:	1 cell	1 cell	1 cell
Terminations:	Dual connections, PCB spills & 2.8 series tabs/solder tags. (PCB spills may be removed if required)	Dual connections, PCB spills & 2.8 series tabs/solder tags. (PCB spills may be removed if required)	Dual connections, PCB spills & 2.8 series tabs/solder tags. (PCB spills may be removed if required)
Operating Temperature:	-30°C to +70°C	-30°C to +70°C	-30°C to +70°C
Flammability Rating:	UL94HB	UL94HB	UL94HB
Mouldings:	Glass Filled Nylon	Glass Filled Nylon	Nylon & Glass Filled Nylon
Contacts:	Nickel Silver, clean	Nickel Silver, clean	Nickel Silver, clean
Features:		Interlocking for multiple assemblies	Interlocking for multiple assemblies
RoHS	Compliant	Compliant	Compliant

#### C SIZE BATTERY HOLDER



BX0036

- 1 Cell
- PCB/Base Mount
- Open style

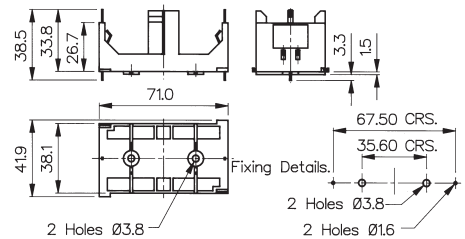


#### D SIZE BATTERY HOLDER



BX0037

- 1 Cell
- PCB/Base Mount
- Open style

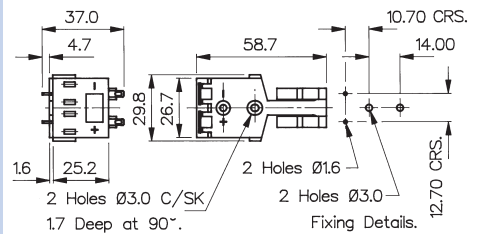


#### PP3 SIZE BATTERY HOLDER



BX0033

- 1 Cell
- PCB/Base Mount
- Open style



Specification	BX0036	BX0037	BX0033
Battery/Cell Type:	C (R14)	D (R20)	PP3 (6R61)
No. Cells:	1 cell	1 cell	1 cell
Terminations:	Dual connections, PCB spills & 2.8 series tabs/solder tags. (PCB spills may be removed if required)	Dual connections, PCB spills & 2.8 series tabs/solder tags. (PCB spills may be removed if required)	Dual connections, PCB spills & 2.8 series tabs/solder tags. (PCB spills may be removed if required)
Operating Temperature:	-30°C to +70°C	-30°C to +70°C	-30°C to +70°C
Flammability Rating:	UL94HB	UL94HB	UL94V-2
Mouldings:	Glass Filled Nylon	Glass Filled Nylon	Nylon & Glass Filled Nylon
Contacts:	Nickel Silver, clean	Nickel Silver, clean	Nickel Silver, clean
Features:	Interlocking for multiple assemblies	Interlocking for multiple assemblies	
<b>RoHS</b>	Compliant	Compliant	Compliant