

# Switches

Manufactured from Stainless Steel, Bulgin's extensive range of vandal resistant security switches are designed with a high resistance to wear and tear, corrosion and harsh use in potentially hostile environments, such as access control applications.

The front and rear panel mounted versions have three profiles – prominent, domed and low profile – with a choice of switching and IP66 front panel sealing and combine together to meet the ergonomic, electrical and environmental demands of switch panel design. And where the ultimate strength of steel is not needed, there is a brass, chrome plated alternative.

The illuminated versions, available in dot and ring indication, are new to the range and will add that extra dimension to control panel layouts.

Other switch types include conventional, push-button and toggle switches.

Type	Page
<b>Low Profile Vandal Resistant</b>	
MP0025	161
MP0027	161
MP0038	161
MP0031	162
MP0034	162
MP0037	162
<b>Illuminated Vandal Resistant</b>	
MPI001	163
MPI002	163
<b>Brass Chrome Plated Vandal Resistant</b>	
MPB027	164
MPB038	164
MPB031	164
MPB037	165
<b>Domed Vandal Resistant</b>	
MP0027/3	166
MP0038/3	166
MP0025/3	166
MP0037/3	167
MP0031/3	167
MP0034/3	167
<b>Prominent Vandal Resistant</b>	
MP0027/2	168
MP0038/2	168
MP0025/2	168
MP0037/2	169
MP0031/2	169
MP0034/2	169

Type	Page
<b>Push Button</b>	
MP0013	170
MP0033	170
MP0013/2	170
MP0033/2	170
MP0012	171
MP0016	171
MP0022	172
SX0904	172
SM0357, SM0365	172
<b>Toggle</b>	
SM0259, SM0265	173
SX0790-SX0794	173
SM0267, SM0270	174
SX0780-SX0787	174
Accessories	175
<b>Voltage Selectors</b>	
VS0001	176
VS0002	176

## Vandal Resistant Switches

### ENGRAVING OPTIONS

The low profile and prominent vandal resistant switches MP0025, MP0027, MP0031, MP0034, MP0038, MP0025/2, MP0027/2, MP0031/2, MP0034/2 and MP0038/2 are also available with engraved non-rotating buttons.

0	1	2	3	4
5	6	7	8	9
10	11	12	13	14
15	16	17	18	19
20	A1*	A2*		

### How to Order

**MP00xx/1/xx**

Switch Style \_\_\_\_\_  
 MP0025, MP0025/2, MP0027, MP0027/2,  
 MP0031, MP0031/2, MP0034, MP0034/2.  
 MP0038, MP0038/2

Non Rotating Button \_\_\_\_\_

Engraving option \_\_\_\_\_

0 - 20 Numeric  
 A1 = Up Arrow  
 A2 = Down Arrow

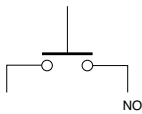
### Examples

MP0031/1/A1 = MP0031 style switch, with non-rotating button engraved with an up arrow

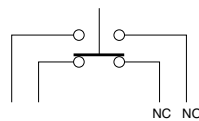
MP0027/2/1/13 = MP0027 style switch with prominent non-rotating button engraved with numeric characters 13

### SWITCH OPERATION

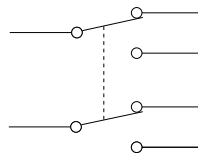
#### Switch Contact Operation



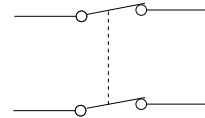
S.P. Push to Make  
S.P.M.B.



S.P.C.O.



D.P.C.O.



D.P.M.B.

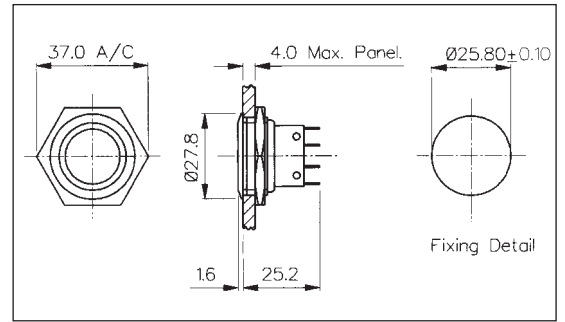
**Stainless Steel Low Profile Vandal Resistant**

**FRONT PANEL MOUNTING**



**MP0027**

- 28mm diameter
- S.P.C.O. Microswitch
- 5A, 250V a.c.

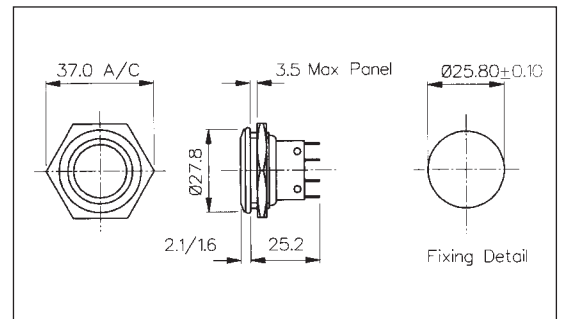


**FRONT PANEL MOUNTING**



**MP0038**  
Sealed to IP66

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

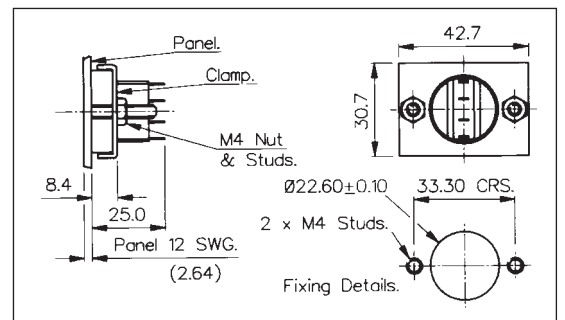


**REAR PANEL MOUNTING**



**MP0025**

- 22mm diameter
- S.P.C.O. Microswitch
- 5A, 250V a.c.



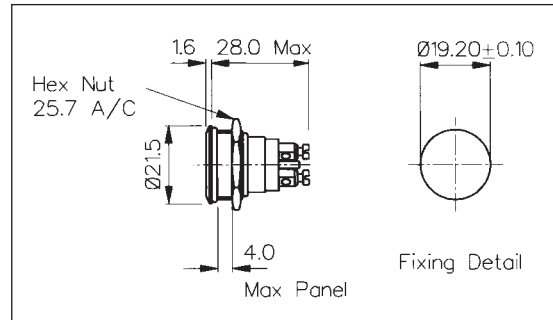
Specification	MP0027	MP0038	MP0025
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250V a.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ.	>10 <sup>3</sup> MΩ
Dielectric Strength:	>2.0kV a.c.	>2.0kV a.c.	>2.0kV a.c.
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 1992 (Micro switch not sealed)	
Operations			
Mechanical:	1,000,000 (min)	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)	6.1N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm	-
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:	Stainless Steel	Stainless Steel	Stainless Steel
Contacts:	Fine Silver	Fine Silver	Fine Silver
Variants:	Engraved Button, Non-Rotating Button, details on request	Engraved Button, Non-Rotating Button, details on request	Engraved Button, Non-Rotating Button, details on request

## Stainless Steel Low Profile Vandal Resistant

### FRONT PANEL MOUNTING



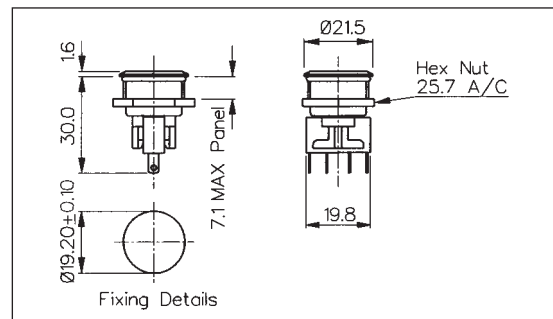
- Front Panel Sealed to IP68
- 21.5mm diameter
- S.P. Push to Make
- 1A, 50V
- Industry Standard Size



### FRONT PANEL MOUNTING



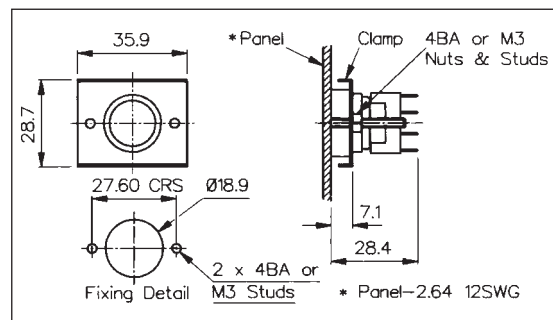
- Front Panel Sealed to IP66
- 21.5mm diameter
- S.P.C.O. Microswitch
- 5A, 250V a.c.



### REAR PANEL MOUNTING



- Rear Panel Mounting
- Flush with Panel
- 19mm diameter
- S.P.C.O. Microswitch
- 5A, 250V a.c.



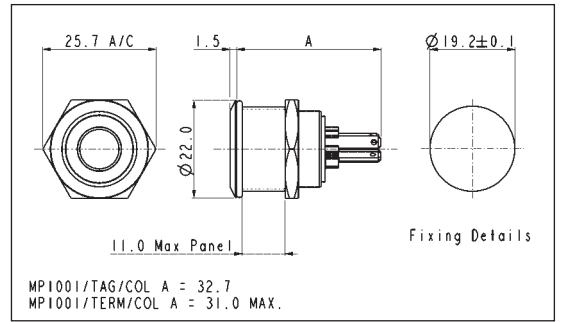
Specification	MP0037	MP0031	MP0034
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50V	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>5</sup> MΩ	>10 <sup>3</sup> MΩ.	>10 <sup>3</sup> MΩ
Dielectric Strength:	>1.0kV a.c.	>2.0kV a.c.	>2.0kV a.c.
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: IP68 EN60529 1992 (Terminals not sealed)	Protection Classification: IP66 EN60529 1992 (Micro switch not sealed)	
Operations			
Mechanical:	1,000,000 (min)	1,000,000 (min)	250,000 (min)
Electrical:	30,000 (min)	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	4.7N (typ)	2.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm	-
Materials			
Mouldings:	Glass Filled Nylon	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Silver Plated	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel	Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver	Fine Silver
Variants:	-	Engraved Button, Non-Rotating Button, details on request	Engraved Button, Non-Rotating Button, details on request

**Stainless Steel Illuminated Vandal Resistant**

**FRONT PANEL MOUNTING**



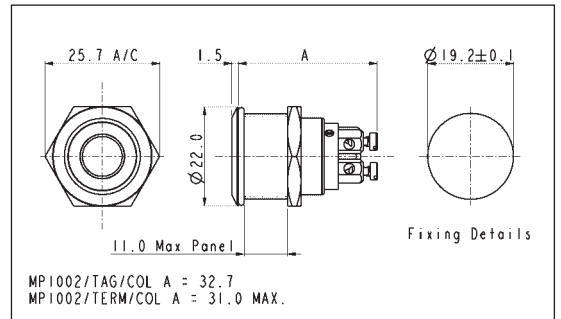
- Dot Illuminated
- 22mm diameter
- S.P. Push to Make
- 50mA, 24V dc contact rating
- Red, Green, Amber or Blue Illumination
- Bright Daylight LEDs
- Separate LED Terminals



**FRONT PANEL MOUNTING**



- Ring Illuminated
- 22mm diameter
- S.P. Push to Make
- 50mA, 24V dc contact rating
- Red, Green, Amber or Blue Illumination
- Bright Daylight LEDs
- Separate LED Terminals



Specification	MPI001/Termination/Col	MPI002/Termination/Col
Terminations:	/28 (2.8mm tabs), /Term (screw terminals)	/28 (2.8mm tabs), /Term (screw terminals)
Switching:	S.P. Push to make, tactile	S.P. Push to make, tactile
Max. Rating:	50mA, 24V d.c.	50mA, 24V d.c.
Contact Resistance:	<100mΩ	<100mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ.
Dielectric Strength:	Contact to Panel >2.0kV Contact to Contact 1500V	Contact to Panel >2.0kV Contact to Contact 1500V
Operating Temp. Range:	-30°C to +70°C	-30°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP66 EN60529 1992	Protection Classification: IP66 EN60529 1992
Operations		
Mechanical:	750,000 (min)	750,000 (min)
Electrical:	35,000 (min)	35,000 (min)
Operating Pressure:	12N	12N
Rear Nut Fixing Torque:	0.57Nm	0.57Nm
Materials		
Switch assembly:	UL94V-0 rated Polyamide (Nylon)	UL94V-0 rated Polyamide (Nylon)
Tags:	Copper Alloy	Copper Alloy
Terminals:	Copper Alloy	Copper Alloy
Switch Body & Button:	Stainless Steel	Stainless Steel
Lens and Lens Body:	Polycarbonate	Polycarbonate
O rings:	Nitrile and Silicone	Nitrile and Silicone
Contact Plate:	Gold Plated	Gold Plated
LEDs (ratings @ 20mA)		
Colours	Red    Green    Amber    Blue	Red    Green    Amber    Blue
Luminous Intensity	900mcd 1500mcd 220mcd 1500mcd	900mcd 1500mcd 220mcd 1500mcd
Forward Voltage*	1.85V 3.0V 2.0V 3.4V	1.85V 3.0V 2.0V 3.4V
Part No.	/RD    /GN    /AM    /BL	/RD    /GN    /AM    /BL
	*A resistor must be series connected by the user	

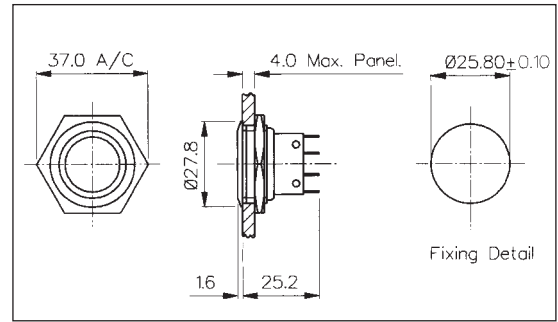
## Low Profile Brass Chrome Plated Vandal Resistant

### FRONT PANEL MOUNTING



**MPB027**

- 28mm diameter
- S.P.C.O. Microswitch
- 5A, 250V a.c.

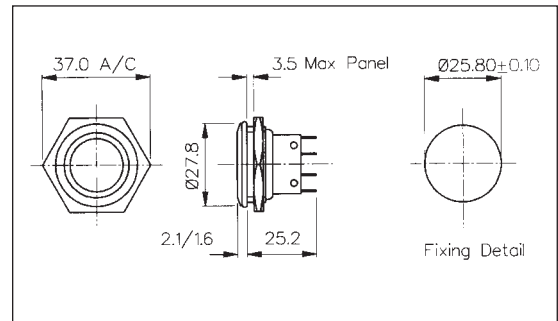


### FRONT PANEL MOUNTING



**MPB038**  
Sealed to IP66

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

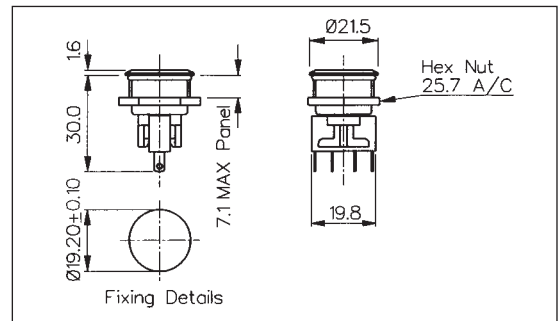


### FRONT PANEL MOUNTING



**MPB031**  
Sealed to IP66

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



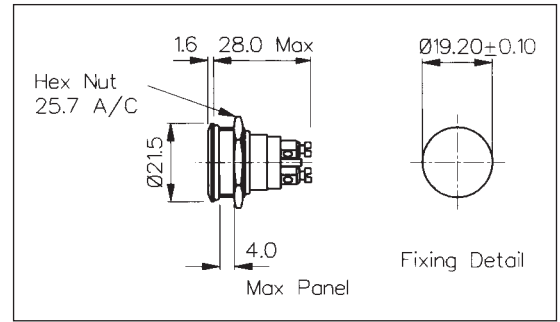
Specification	MPB027	MPB038	MPB031
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250V a.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ.	>10 <sup>3</sup> MΩ
Dielectric Strength:	>2.0kV a.c.	>2.0kV a.c.	>2.0kV a.c.
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 1992 (Micro switch not sealed)	Protection Classification: IP66 EN60529 1992 (Micro switch not sealed)
Operations			
Mechanical:	1,000,000 (min)	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)	4.7N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm	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, Chrome Plated	Brass, Chrome Plated	Brass, Chrome Plated
Contacts:	Fine Silver	Fine Silver	Fine Silver
Variants:	Non-Rotating Button, details on request	Non-Rotating Button, details on request	Non-Rotating Button, details on request

Low Profile Brass Chrome Plated Vandal Resistant

FRONT PANEL MOUNTING



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



Specification	MPB037
Terminations:	Screw Terminals
Switching:	S.P. Push to make Momentary action
Max. Rating:	1A, 50V
Contact Resistance:	<10mΩ
Insulation Resistance:	>10 <sup>5</sup> MΩ
Dielectric Strength:	>1.0kV a.c.
Operating Temp. Range:	-20°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP68 EN60529 1992 (Terminals not sealed)
Operations	
Mechanical:	1,000,000 (min)
Electrical:	30,000 (min)
Operating Pressure:	7.5N (typ)
Rear Nut Fixing Torque:	0.57Nm
Materials	
Mouldings:	Glass Filled Nylon
Tags/Terminations:	Brass, Silver Plated
Switch Body & Button:	Brass, Chrome Plated
Contacts:	Brass, Silver Plated, Silver
Variants:	

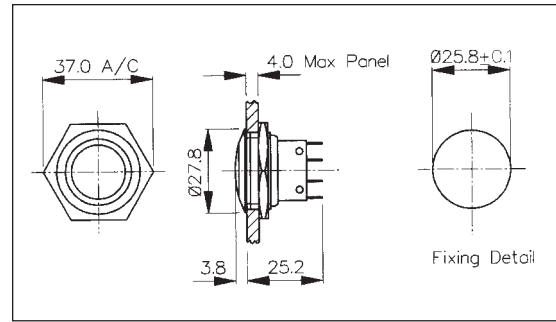
## Stainless Steel Domed Vandal Resistant

### FRONT PANEL MOUNTING



**MP0027/3**

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

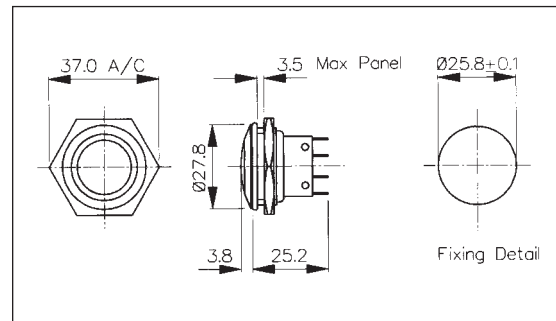


### FRONT PANEL MOUNTING



**MP0038/3**  
Sealed to IP66

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

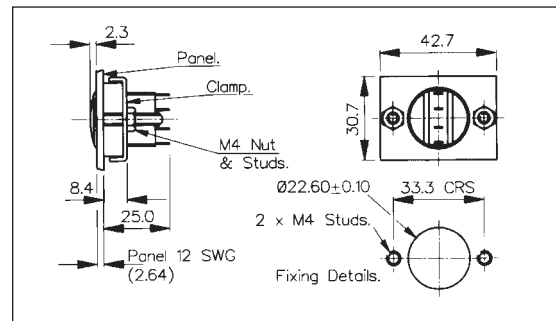


### REAR PANEL MOUNTING



**MP0025/3**

- 22mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250V a.c.



Specification	MP0027/3	MP0038/3	MP0025/3
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250V a.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ.	>10 <sup>3</sup> MΩ
Dielectric Strength:	>2.0kV a.c.	>2.0kV a.c.	>2.0kV a.c.
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 1992 (Micro switch not sealed)	
Operations			
Mechanical:	1,00,000 (min)	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)	6.1N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm	-
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:	Stainless Steel	Stainless Steel	Stainless Steel
Contacts:	Fine Silver	Fine Silver	Fine Silver
Variants:	Non-Rotating Button, details on request	Non-Rotating Button, details on request	Non-Rotating Button, details on request



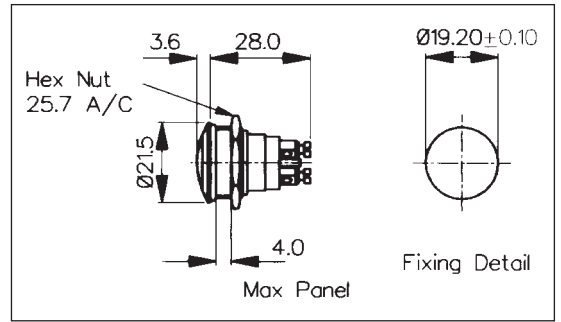
**Stainless Steel Domed Vandal Resistant**

**FRONT PANEL MOUNTING**



**MP0037/3**  
Sealed to IP68

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

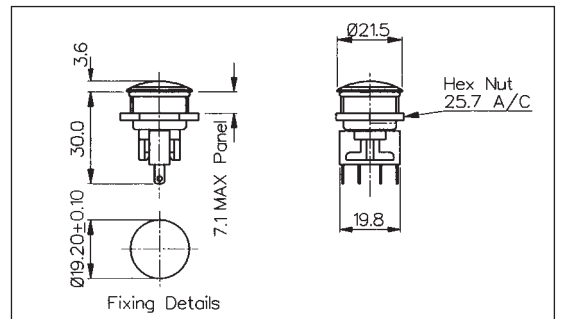


**FRONT PANEL MOUNTING**



**MP0031/3**  
Sealed to IP66

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

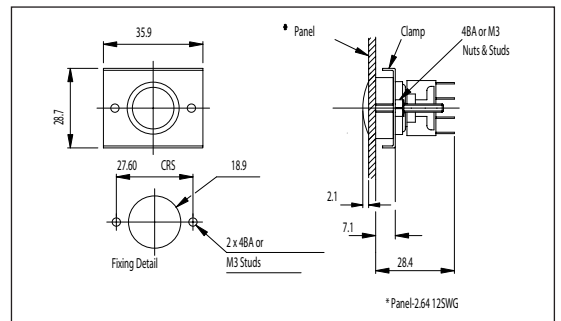


**REAR PANEL MOUNTING**



**MP0034/3**

- Rear Panel Mounting
- 19mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250V a.c.



Specification	MP0037/3	MP0031/3	MP0034/3
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50V	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>5</sup> MΩ	>10 <sup>3</sup> MΩ.	>10 <sup>3</sup> MΩ
Dielectric Strength:	>1.0kV a.c.	>2.0kV a.c.	>2.0kV a.c.
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: IP68 EN60529 1992 (Terminals not sealed)	Protection Classification: IP66 EN60529 1992 (Micro switch not sealed)	-
Operations			
Mechanical:	1,000,000 (min)	1,000,000 (min)	250,000 (min)
Electrical:	30,000 (min)	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N	4.7N (typ)	2.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm	-
Materials			
Mouldings:	Glass Filled Nylon	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Silver Plated	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel	Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver	Fine Silver
Variants:		Non-Rotating Button, details on request	

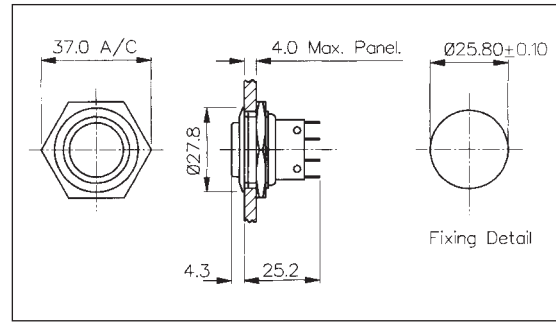
## Stainless Steel Prominent Button Vandal Resistant

### FRONT PANEL MOUNTING



**MP0027/2**

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

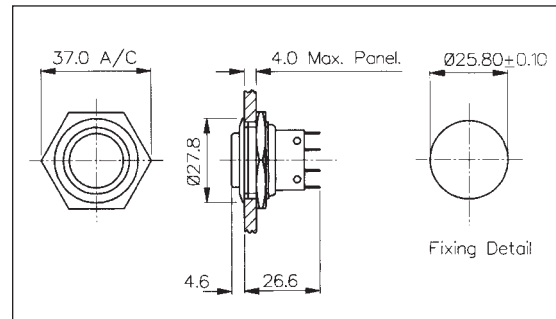


### FRONT PANEL MOUNTING



**MP0038/2**  
Sealed to IP66

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

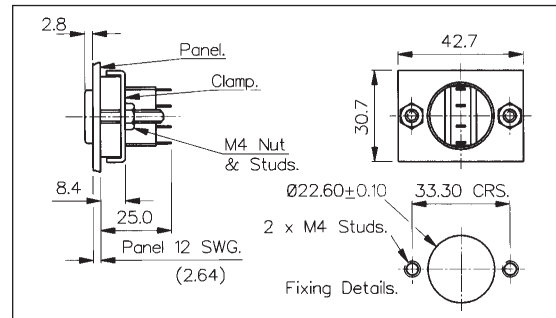


### REAR PANEL MOUNTING



**MP0025/2**

- 22mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250V a.c.



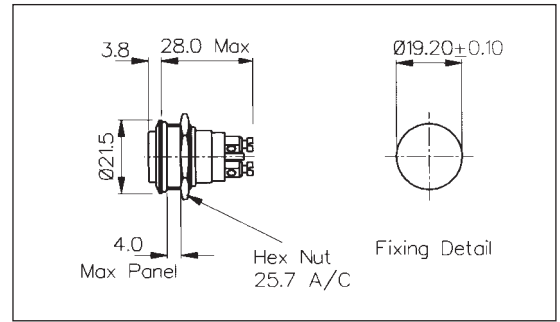
Specification	MP0027/2	MP0038/2	MP0025/2
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250V a.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ.	>10 <sup>3</sup> MΩ
Dielectric Strength:	>2.0kV a.c.	>2.0kV a.c.	>2.0kV a.c.
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 1992 (Micro switch not sealed)	-
Operations			
Mechanical:	1,000,000 (min)	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)	6.1N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm	-
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:	Stainless Steel	Stainless Steel	Stainless Steel
Contacts:	Fine Silver	Fine Silver	Fine Silver
Variants:	Engraved Button, Non-Rotating Button, details on request	Engraved Button, Non-Rotating Button, details on request	Engraved Button, Non-Rotating Button, details on request

**Stainless Steel Prominent Button Vandal Resistant**

**FRONT PANEL MOUNTING**



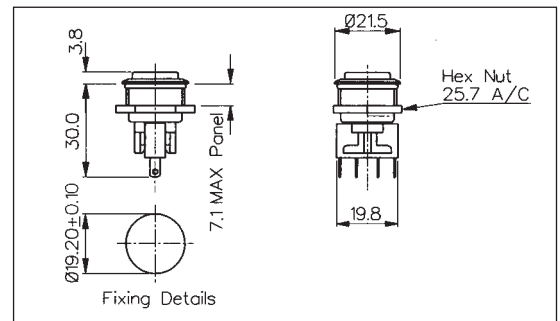
- Front Panel Sealed to IP68
- 21.5mm diameter
- Prominent Button
- S.P. Push to Make
- 1A, 50V



**FRONT PANEL MOUNTING**



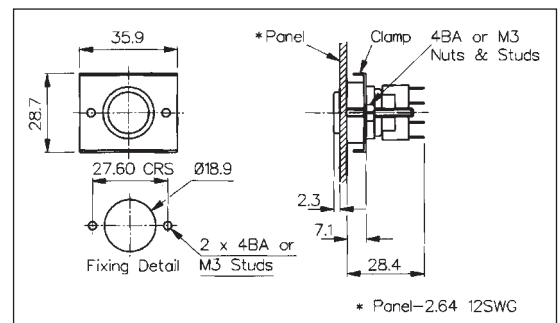
- Front Panel Sealed to IP66
- 21.5mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250V a.c.



**REAR PANEL MOUNTING**



- 19mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250V a.c.



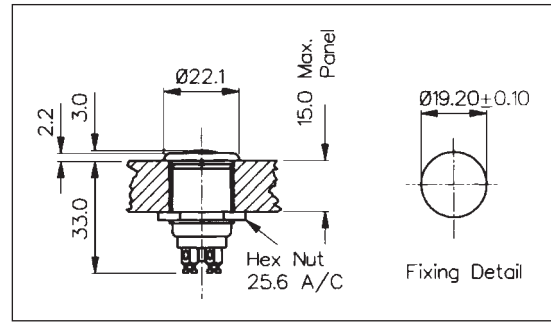
Specification	MP0037/2	MP0031/2	MP0034/2
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Slow momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50V	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>5</sup> MΩ	>10 <sup>3</sup> MΩ.	>10 <sup>3</sup> MΩ
Dielectric Strength:	>1.0kV a.c.	>2.0kV a.c.	>2.0kV a.c.
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: IP68 EN60529 1992 (Terminals not sealed)	Protection Classification: IP66 EN60529 1992 (Micro switch not sealed)	-
Operations			
Mechanical:	1,000,000 (min)	1,000,000 (min)	250,000 (min)
Electrical:	30,000 (min)	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	4.7N (typ)	2.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm	-
Materials			
Mouldings:	Glass Filled Nylon	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Silver Plated	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel	Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver	Fine Silver
Variants:	-	Engraved Button, Non-Rotating Button, details on request	Engraved Button, Non-Rotating Button, details on request

## Push Button

### FRONT PANEL MOUNTING



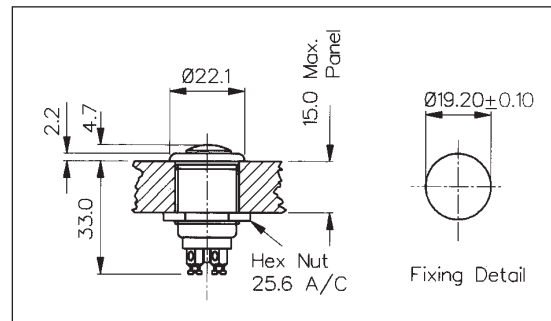
- Proud Fitting
- 22mm diameter
- S.P. Push to Make
- 1A, 50V
- Brass, Chrome Plated Body, Stainless Steel Button
- MP0033 Internally Sealed



### FRONT PANEL MOUNTING



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



Specification	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, 50V a.c.	1A, 50V a.c.
Contact Resistance:	<15mΩ	<15mΩ
Insulation Resistance:	>10 <sup>4</sup> MΩ	>10 <sup>4</sup> MΩ
Dielectric Strength:	>2.5kV a.c.	>2.5kV a.c.
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	MP0033/2 only - internally sealed against ingress of water and dust
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
Variants:		

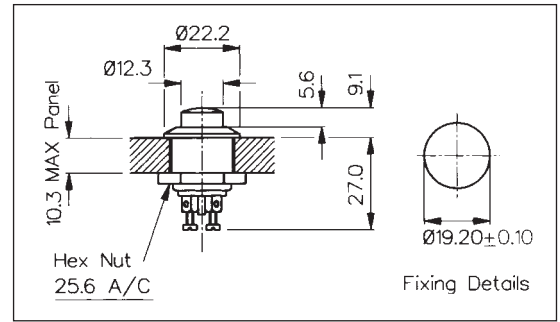
**Push Button**

**FRONT PANEL MOUNTING**



**MP0012/Col**

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

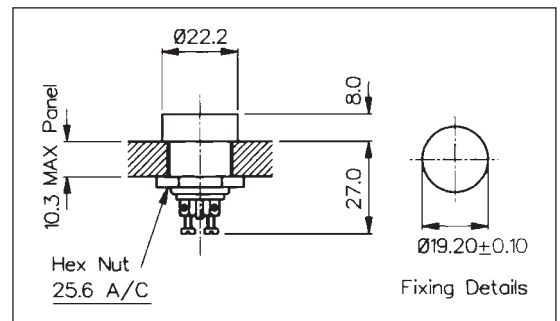


**FRONT PANEL MOUNTING**



**MP0012/1/Col**

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

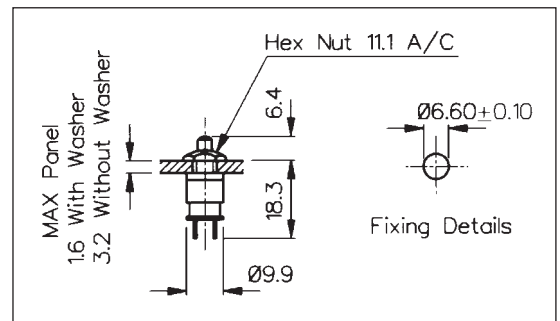


**REAR PANEL MOUNTING**



**MP0016**

- S.P. Push to Make
- Solder Tags
- 1A, 28V a.c./d.c.
- Brass Nickel Plated Body, Glass Filled Nylon Button



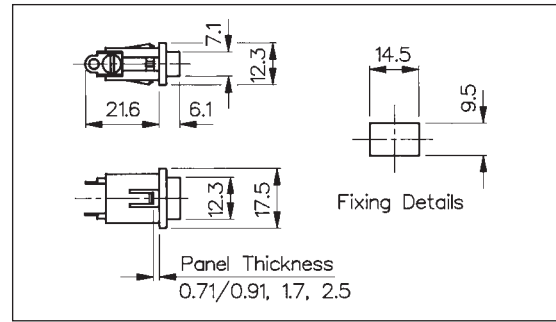
Specification	MP0012/Colour	MP0012/1/Colour	MP0016/Colour
Terminations:	Screw Terminals	Screw Terminals	Solder Tags
Switching:	S.P. Push to Make Slow Momentary Action	S.P. Push to Make Slow Momentary Action	S.P. Push to Make Slow Momentary Action
Max. Rating:	0.25A. 250V a.c., 1A. 110V a.c., 2A. 12V a.c./d.c.	0.25A. 250V a.c., 1A. 110V a.c., 2A. 12V a.c./d.c.	1A 28V a.c./d.c. (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:	>2.5kV a.c.	>2.5kV a.c.	>2.0kV a.c.
Operating Temp. Range:	-20°C to +85°C	-20°C to +85°C	-20°C to +85°C
Materials:			
Moulding:	Glass Filled Nylon	Glass Filled Nylon	Glass Filled Nylon
Body:	Brass, Chrome Plated	Brass, Chrome Plated	Brass, Chrome Plated
Contacts/Terms:	Brass, Silver Plated	Brass, Silver Plated	Brass, Silver Plated
Variants:	Button Colour: Standard - Black, /RD (Red)	Button Colour: Standard - Black, /RD (Red)	Button Colour: Standard - Black, /RD (Red)

## Push Button

### FRONT PANEL MOUNTING



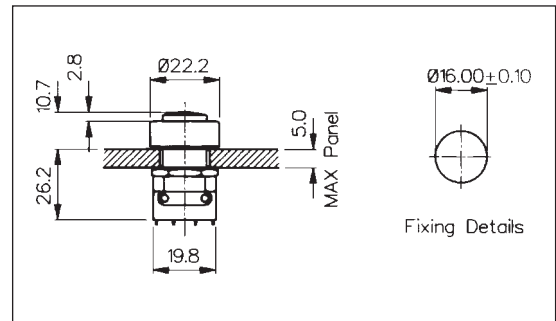
- S.P. Push to Make
- Solder Tags
- Nylon Body & Button



### FRONT PANEL MOUNTING



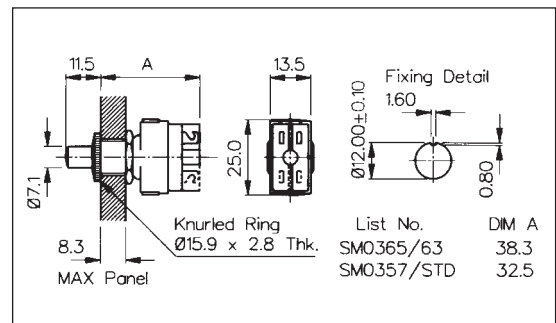
- Front Panel Sealed to IP66
- S.P.C.O. Microswitch
- Solder Tags
- 5A, 250V a.c.
- Black Anodised Aluminium Body
- Black, red or green Buttons



### REAR PANEL MOUNTING



- SM0357 S.P.C.O.
- SM0365 S.P.M.B.
- Solder Tags
- SM0357 - 2A, 250V a.c.
- SM0365 - 3A, 250V a.c.



Specification	MP0022/Colour	SX0904/Colour	SM0357, SM0365
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P. Push to Make Slow Momentary Action	S.P.C.O. Momentary Action (Microswitch)	SM0357 S.P.C.O. 2 pairs contacts SM0365 S.P.M.B. push to make 1 pair contacts
Max. Rating:	0.25A. 250V a.c., 0.5A. 110V a.c., 1A. 0.1 to 28V a.c./d.c.	5A. 250V a.c.	SM0357 2A, 250V a.c. SM0365 3A, 250V a.c.
Contact Resistance:	<15mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>4</sup> MΩ	>10 <sup>3</sup> MΩ.	>10 <sup>3</sup> MΩ
Dielectric Strength:	>2.5kV a.c.	>2.0kV a.c.	>4.5kV a.c.
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C
Sealing:		Protection Classification IP66 BS5490 1992 (Microswitch not sealed)	
Materials:			
Moulding:	Nylon	Glass Filled Nylon	Phenolic
Tags:	Brass, Silver Plated	Brass, Tin Plated	Brass, Silver Plated
Body:	Nylon	Black anodised aluminium	Steel, Zinc Plated
Contacts/Terms:	Brass, Silver Plated	Fine Silver	Brass, Silver Plated
Variants:	Button Colours: Standard - Black, /WH (White) and /RD (Red). /TERM - (Screw terminals)	Button Colours: Standard - Black, /RD (Red) and /GN (Green). /28 (2.8mm tabs)	/TERM (Screw Terminals), /63 (6.3mm tabs) - (SM0365 only)

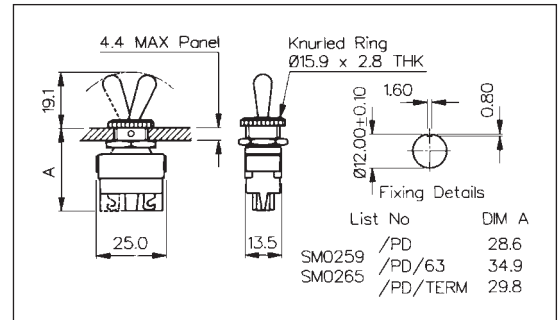
**Toggle**

**SINGLE POLE**



**SM0259/PD**

- SM0259/PD - S.P.M.B.  
SM0265/PD - S.P.C.O.
- Solder tags, 6.3mm tabs or Screw Terminals (SM0259)
- SM0259/PD - 3A, 250V a.c.  
SM0265/PD - 2A, 250V a.c.

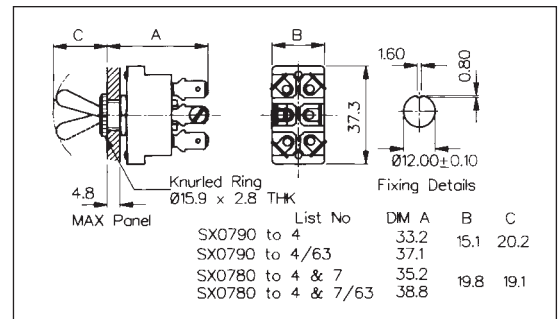


**SINGLE POLE**



**SX0790**

- 6.3mm tabs or Screw Terminals
- 10A, 250V a.c.



Single Pole List No.	Description	1	2	3
SX0790	Change-over. Centre off	ON	OFF	ON
SX0791	Change-over. Centre off One position biased off	ON	OFF	ON
SX0792	Change-over. Centre off Two position biased off	ON	OFF	ON
SX0793	Change-over Two positions only	ON	-	ON
SX0794	ON/OFF Two positions only	OFF	-	ON

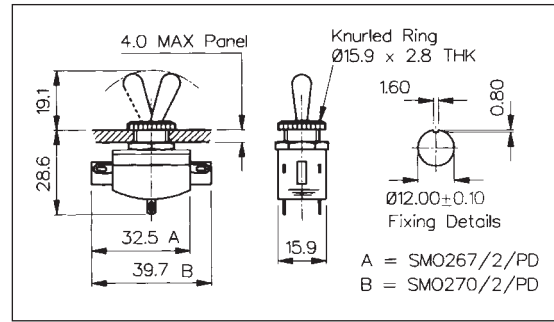
Specification	SM0259/PD, SM0265/PD	SX0790 Series
Terminations:	Solder Tags	Screw Terminals
Switching:	SM0259/PD S.P.M.B. 1 pair of contacts (Quick Make/Break) SM0265/PD S.P.C.O. 2 pairs of contacts (Quick Make/Break)	See table for types Slow Make, Slow Break
Max. Rating:	SM0259/PD 3A, 250V a.c. SM0265/PD 2A, 250V a.c.	10A, 250V a.c. 10A, 0-28V d.c. (non-reactive circuits)
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ
Dielectric Strength:	>4.5kV a.c.	>2.5kV a.c.
Operating Temp. Range:	-20°C to +70°C	-20°C to +85°C
Materials:		
Mouldings:	Phenolic	Glass Filled Polyester
Tags:	Brass, Silver Plated	Brass, Silver Plated
Contacts:	Brass, Silver Plated	Copper with Silver face
Variants:	/TERM (Screw Terminals) - /63 (6.3mm tabs) - (SM0259/PD only)	/63 (6.3mm tabs) - (except SX0791)
Accessories:	SX0550 (see page 175)	SX0550 (see page 175)

## Toggle

### DOUBLE POLE



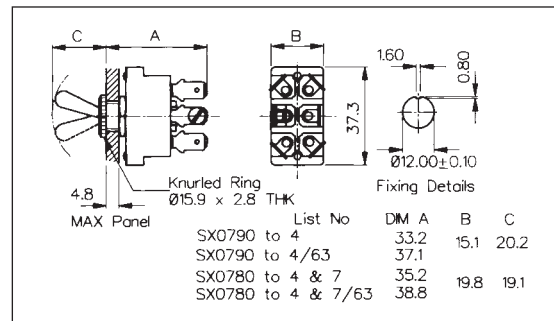
- SM0267/2/PD - D.P.M.B  
SM0270/2/PD - D.P.C.O
- Solder tags
- 2A, 250V a.c.



### DOUBLE POLE



- 6.3mm tabs or Screw Terminals
- 10A, 250V a.c.



Double Pole List No.	Description	1	2	3
SX0780	Change-over. Centre off	ON	OFF	ON
SX0782	Change-over. Centre off Two position biased off	ON	OFF	ON
SX0783	Change-over Two positions only	ON	-	ON
SX0784	ON/OFF Two positions only	OFF	-	ON
SX0787	Change-over. Two positions only biased to one position	ON	-	ON

Specification	SM0267/2/PD, SM0270/2/PD	SX0780 Series
Terminations:	Solder Tags	Screw Terminals
Switching:	SM0267/2/PD - D.P.M.B. 2 pairs of contacts SM0270/2/PD - D.P.C.O. 3 pairs of contacts (Quick Make/Break)	See table for types Slow Make, Slow Break
Max. Rating:	2A, 250V a.c.	10A, 250V a.c. 10A, 0-28V d.c. (non-reactive circuits)
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3</sup> MΩ
Dielectric Strength:	>3.5kV a.c.	>2.5kV a.c.
Operating Temp. Range:	-20°C to +70°C	-20°C to +85°C
Materials:		
Mouldings:	Phenolic	Glass Filled Polyester
Tags:	Copper, Silver Plated	Brass, Silver Plated
Contacts/Terms:	Copper Silver Alloy	Copper with Silver face
Variants:	-	/63 (6.3mm tabs)
Accessories:	SX0550 (see page 175)	SX0550 (see page 175)



**PVC BOOT**



- PVC Boot
- Water and Dust Resistant
- Glass Filled Nylon or Brass, Nickel Plated Insert
- For use with all Bulgin /PD Toggle Switches

**SX0550**

**SILICON RUBBER BOOT**



- Completely Covers Toggle
- Brass, Nickel Plated Insert

**NX1030**

**SILICON RUBBER BOOT**



- Switch Toggle Protrudes
- Brass, Nickel Plated Insert

**NX1030/B**

Specification	SX0550, SX0550/Brass	NX1030, NX1030/B
	Water and dust resistant Black PVC cover for use with all Bulgin /PD switches	NX1030 Completely covers toggle NX1030/B Switch toggle protrudes
Thread:	15/32" x 32 TPI. Whit Form, BS84	15/32" - 32NS - 2B
Operating Temperature:	0°C to +60°C	-70° to +205°C
Materials:		
Boot:	Black PVC	Silicone rubber
Inserts:	Glass Filled Nylon SX0550/BRASS: Brass, Nickel Plated	Brass, Nickel Plated

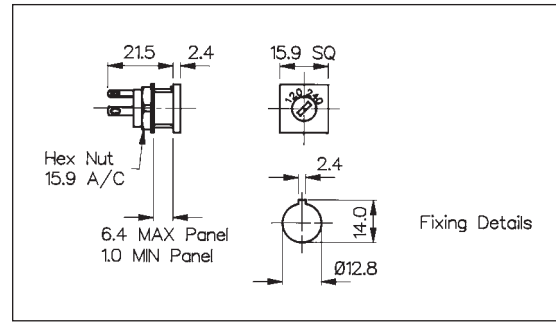
## Voltage Selectors

### 120/240V VOLTAGE SELECTOR



**VS0001**

- 2.8 series tabs/solder tags
- Square Front Bezel
- 6.3A
- CSA, SEMKO & VDE approvals

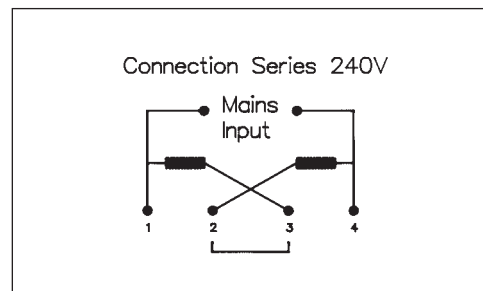
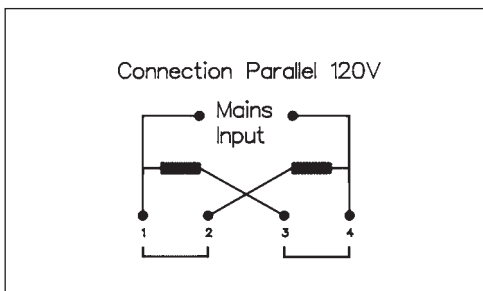
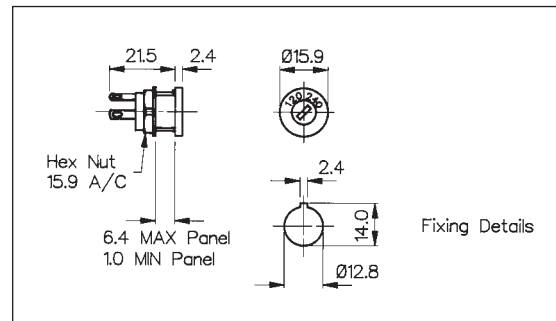


### 120/240V VOLTAGE SELECTOR



**VS0002**

- 2.8 series tabs/Solder tags
- Round Front Bezel
- 6.3A
- CSA, SEMKO & VDE approvals



Specification	VS0001	VS0002
Max. Rating:	6.3A, 120/240V	6.3A, 120/240V
Insulation Resistance:	> 10 <sup>6</sup> MΩ	> 10 <sup>6</sup> 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
Approvals:		
Variants:	Other markings, details on request	Other markings, details on request