



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 & 68 front panel sealing that, combined together, 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 low profile style switches are now also available with a latching, push on - push off, action.

The illuminated versions, available in dot and ring indication and a variety of illumination colours, 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
Low Profile Vandal Resistant	
MP0025	179
MP0027	179
MP0038	179
MP0031	180
MP0034	180
MP0037	180
Low Profile Vandal Resistant - Latching	
MPL025	181
MPL027	181
MPL038	181
MPL031	182
MPL034	182
Illuminated Vandal Resistant	
MPI001	183
MPI002	183
Brass Chrome Plated Vandal Resistant	
MPB027	184
MPB038	184
MPB031	184
MPB037	185
Domed Vandal Resistant	
MP0027/3	186
MP0038/3	186
MP0025/3	186
MP0037/3	187
MP0031/3	187
MP0034/3	187

Type	Page
Prominent Vandal Resistant	
MP0027/2	188
MP0038/2	188
MP0025/2	188
MP0037/2	189
MP0031/2	189
MP0034/2	189
Push Button	
MP0013	190
MP0033	190
MP0013/2	190
MP0033/2	190
MP0012	191
MP0016	191
MP0022	192
SX0904	192
Toggle	
SX0790-SX0794	193
SX0780-SX0787	194
Accessories	195
Voltage Selectors	
VS0001	196
VS0002	196

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

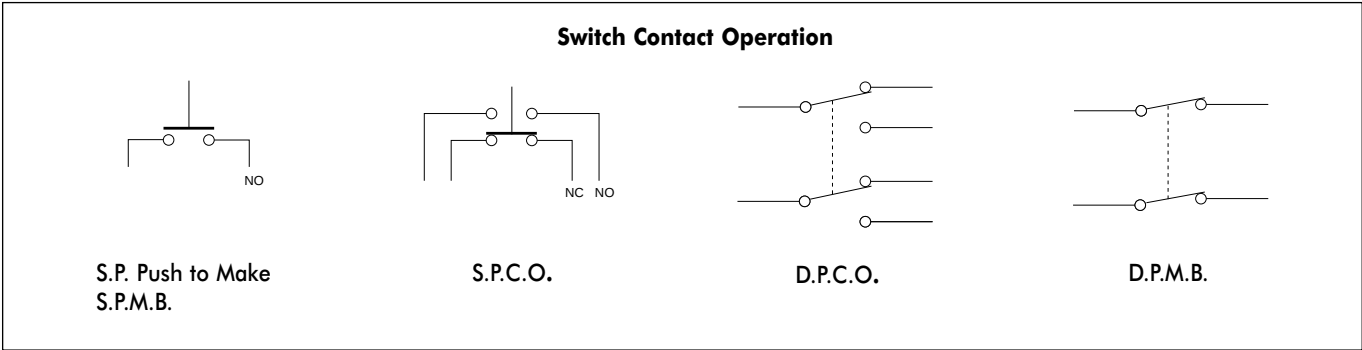
Engraving option
0 - 20 Numeric
A1 = Up Arrow
A2 = Down Arrow

Examples

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

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

SWITCH OPERATION



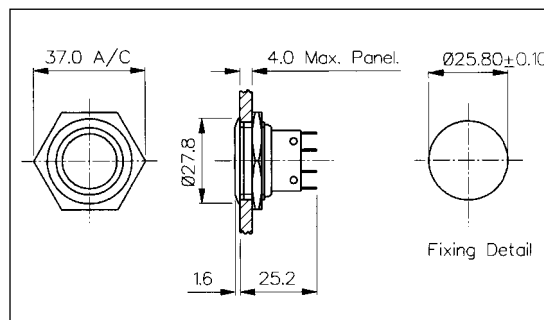
Stainless Steel Low Profile Vandal Resistant - Momentary

FRONT PANEL MOUNTING



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

MP0027

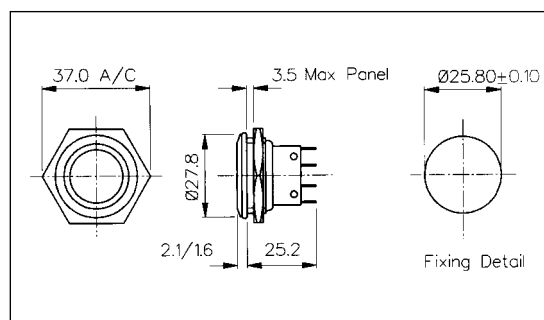


FRONT PANEL MOUNTING



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

MP0038
Sealed to IP66

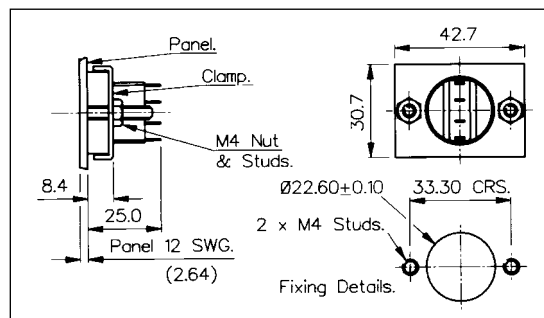


REAR PANEL MOUNTING



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

MP0025



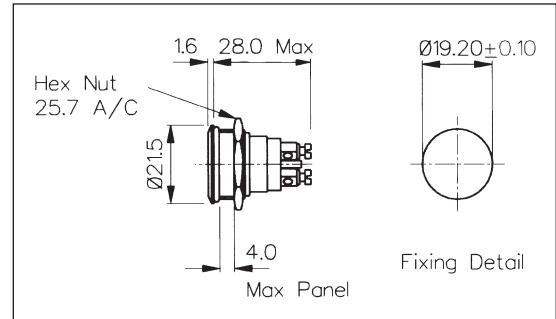
Specification	MP0027	MP0038	MP0025
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250V a.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 ³ MΩ	>10 ³ MΩ.	>10 ³ 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
RoHS	Compliant	Compliant	Compliant

Stainless Steel Low Profile Vandal Resistant - Momentary

FRONT PANEL MOUNTING



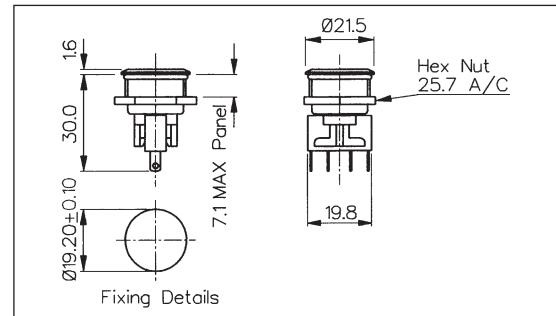
- Front Panel Sealed to IP68
- 21.5mm diameter
- S.P. Push to Make
- 1A, 50V a.c./d.c.
- Industry Standard Size



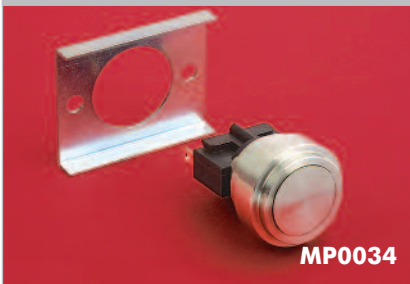
FRONT PANEL MOUNTING



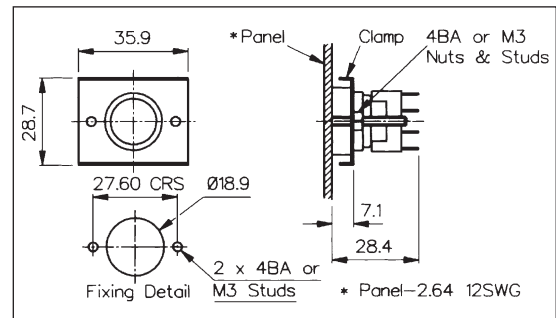
- Front Panel Sealed to IP66
- 21.5mm diameter
- S.P.C.O. Microswitch
- 5A, 250V a.c.



REAR PANEL MOUNTING



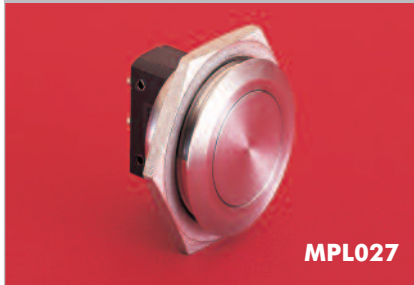
- Rear Panel Mounting
- Flush with Panel
- 19mm diameter
- S.P.C.O. Microswitch
- 5A, 250V a.c.



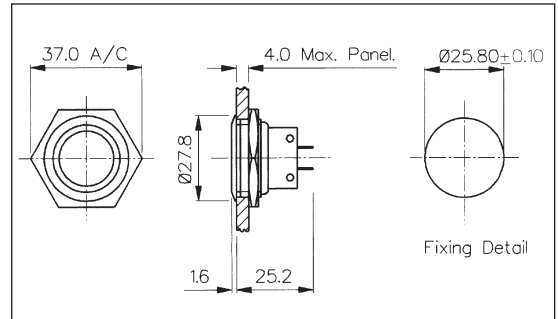
Specification	MP0037	MP0031	MP0034
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50V a.c./d.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 ⁵ MΩ	>10 ³ MΩ.	>10 ³ 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
RoHS	Compliant	Compliant	Compliant

Stainless Steel Low Profile Vandal Resistant - Latching

FRONT PANEL MOUNTING


MPL027

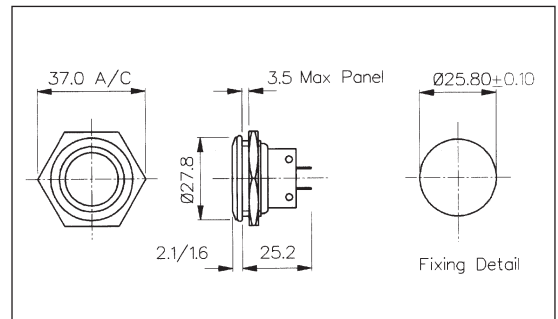
- 28mm diameter
- 2A, 50V a.c./d.c.
- Single pole push to make
- Latching switch



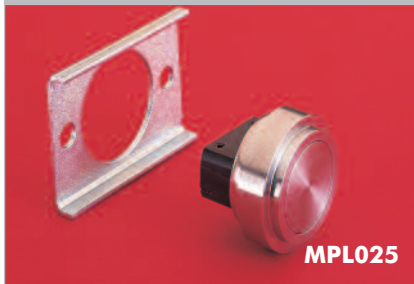
FRONT PANEL MOUNTING


MPL038
Sealed to IP66

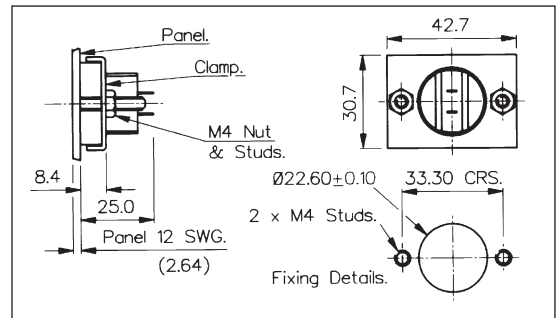
- Front Panel Sealed to IP66
- 28mm diameter
- 2A, 50V
- Single pole push to make
- Latching switch



REAR PANEL MOUNTING


MPL025

- 22mm diameter
- 2A, 50V
- Single pole push to make
- Latching switch



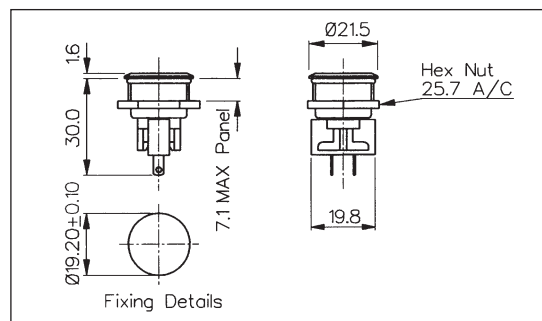
Specification	MPL027	MPL038	MPL025
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.M.B. - Latching	S.P.M.B. - Latching	S.P.M.B. - Latching
Max. Rating:	2A, 50V a.c./d.c.	2A, 50V	2A, 50V
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 ³ MΩ	>10 ³ MΩ.	>10 ³ MΩ
Dielectric 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 (Switch not sealed)	
Operations			
Mechanical:	8,000 (min)	8,000 (min)	8,000 (min)
Electrical:	8,000 (min)	8,000 (min)	8,000 (min)
Operating Pressure:	5.5N (typ)	5.5N (typ)	5.5N (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 details on request	Engraved Button details on request	Engraved Button details on request
RoHS	Compliant	Compliant	Compliant

Stainless Steel Low Profile Vandal Resistant - Latching

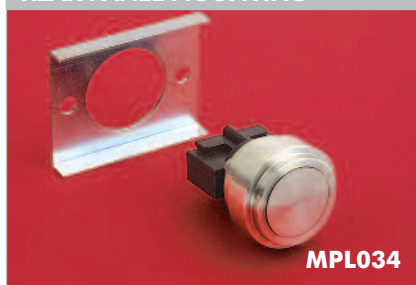
FRONT PANEL MOUNTING



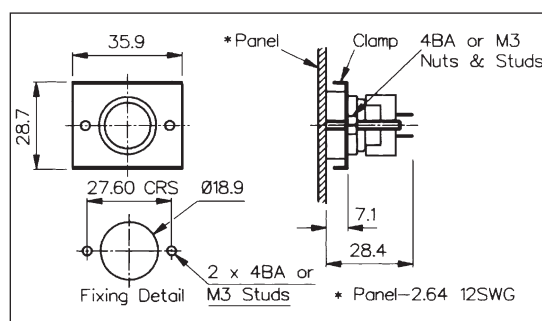
- Front Panel Sealed to IP66
- 21.5mm diameter
- 2A, 50V a.c./d.c.
- Single pole push to make
- Latching switch



REAR PANEL MOUNTING



- Rear Panel Mounting
- Flush with Panel
- 19mm diameter
- 2A, 50V
- Single pole push to make
- Latching switch



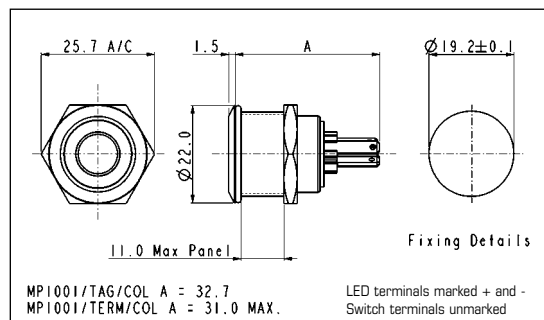
Specification	MPL031	MPL034
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.M.B. - Latching	S.P.M.B. - Latching
Max. Rating:	2A, 50V a.c./d.c.	2A, 50V
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 ³ MΩ	>10 ³ MΩ
Dielectric Strength:	>2.0kV a.c.	>2.0kV a.c.
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP66 EN60529 1992 (Switch not sealed)	
Operations		
Mechanical:	8,000 (min)	8,000 (min)
Electrical:	8,000 (min)	8,000 (min)
Operating Pressure:	5.5N (typ)	5.5N (typ)
Rear Nut Fixing Torque:	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
Variants:	Engraved Button details on request	Engraved Button details on request
RoHS	Compliant	Compliant

Stainless Steel Illuminated Vandal Resistant

FRONT PANEL MOUNTING



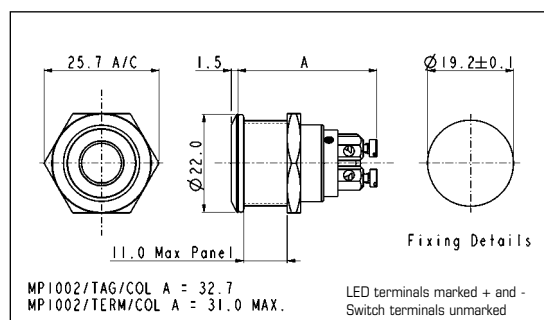
- Dot Illuminated
- 22mm diameter
- S.P. Push to Make
- 50mA, 24V dc contact rating
- Red, Green, Amber, Blue or White Illumination
- Bright Daylight LEDs
- Separate LED Terminals



FRONT PANEL MOUNTING



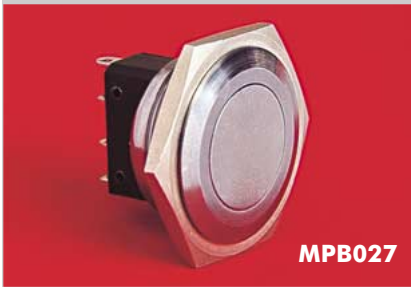
- Ring Illuminated
- 22mm diameter
- S.P. Push to Make
- 50mA, 24V dc contact rating
- Red, Green, Amber, Blue or White Illumination
- Bright Daylight LEDs
- Separate LED Terminals



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. Switch Rating:	50mA, 24V d.c.	50mA, 24V d.c.
LEDs (ratings @ 20mA)		
Colours	Red Green Amber Blue White	Red Green Amber Blue White
Luminous Intensity	900mcd 2500mcd 900mcd 1500mcd 900mcd	900mcd 2500mcd 900mcd 1500mcd 900mcd
Forward Voltage*	1.85V 3.5V 2.3V 3.5V 3.6V	1.85V 3.5V 2.3V 3.5V 3.6V
Part No.	/RD /GN /AM /BL /WH	/RD /GN /AM /BL /WH
	*An appropriate resistor must be series connected by the user	
Contact Resistance:	<100mΩ	<100mΩ
Insulation Resistance:	>10 ³ MΩ	>10 ³ 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 ring:	Nitrile	Nitrile
Internal seal:	Silicone	Silicone
Contact Plate:	Gold Plated	Gold Plated
RoHS	Compliant	Complaint

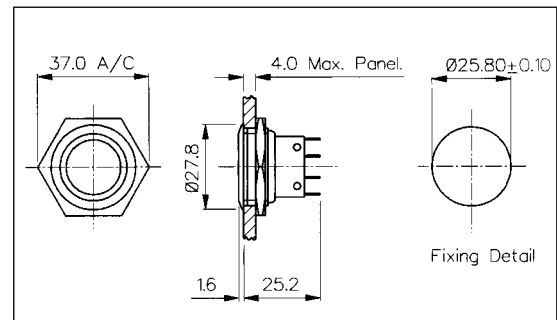
Low Profile Brass Chrome Plated Vandal Resistant

FRONT PANEL MOUNTING



MPB027

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

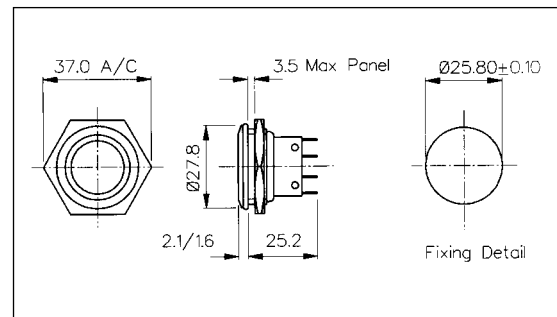


FRONT PANEL MOUNTING



MPB038
Sealed to IP66

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

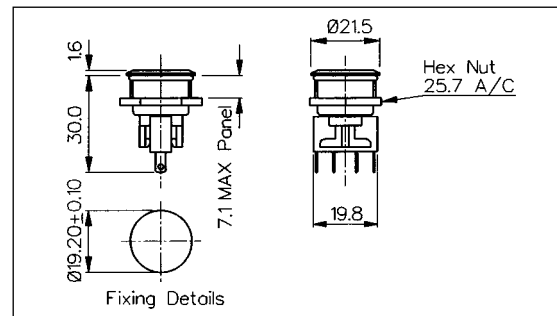


FRONT PANEL MOUNTING



MPB031
Sealed to IP66

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



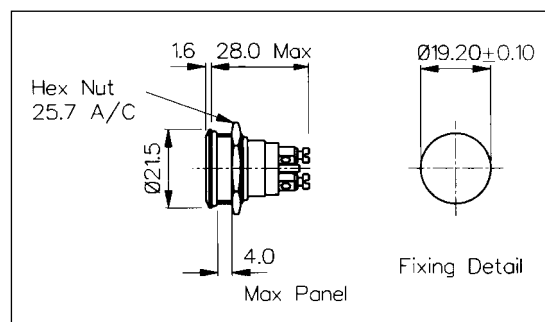
Specification	MPB027	MPB038	MPB031
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250V a.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 ³ MΩ	>10 ³ MΩ.	>10 ³ 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
RoHS	Compliant	Compliant	Compliant

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



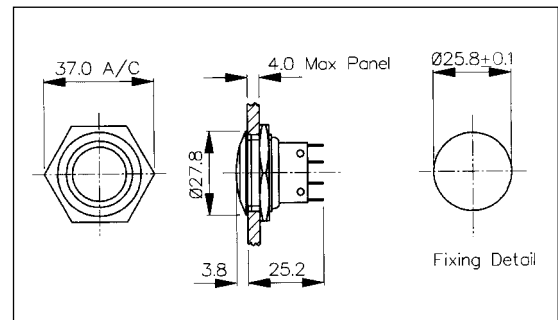
Specification	MPB037		
Terminations:	Screw Terminals		
Switching:	S.P. Push to make Momentary action		
Max. Rating:	1A, 50V		
Contact Resistance:	<10m Ω		
Insulation Resistance:	>10 ⁵ M Ω		
Dielectric Strength:	>1.0kV a.c.		
Operating Temp. Range:	-20°C to +70°C		
Sealing (Front of panel only):	Protection 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:			
RoHS	Compliant		

Stainless Steel Domed Vandal Resistant

FRONT PANEL MOUNTING



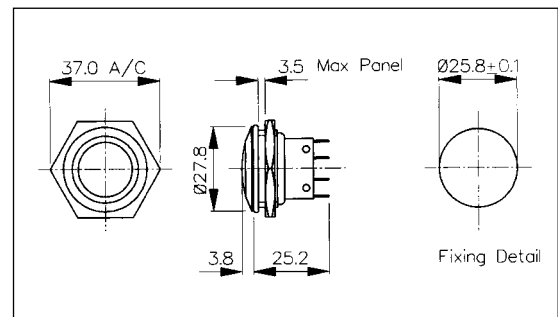
- 28mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250V a.c.



FRONT PANEL MOUNTING



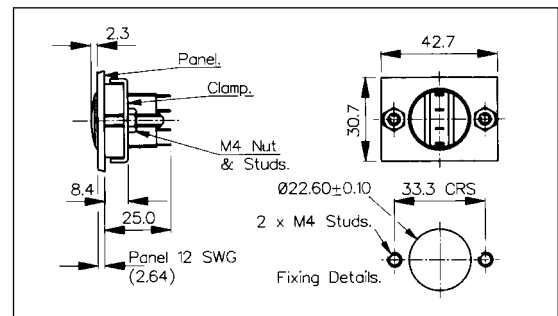
- Front Panel Sealed to IP66
- 28mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250V a.c.



REAR PANEL MOUNTING



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



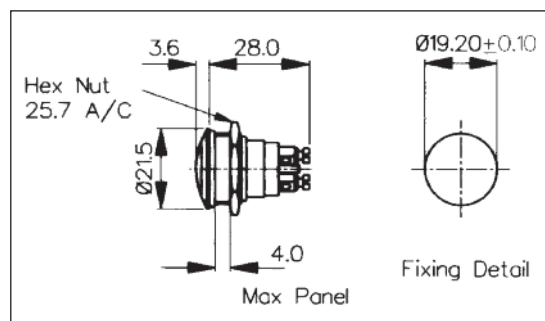
Specification	MP0027/3	MP0038/3	MP0025/3
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250V a.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 ³ MΩ	>10 ³ MΩ.	>10 ³ 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:	Non-Rotating Button, details on request	Non-Rotating Button, details on request	Non-Rotating Button, details on request
RoHS	Compliant	Compliant	Compliant

Stainless Steel Domed Vandal Resistant

FRONT PANEL MOUNTING



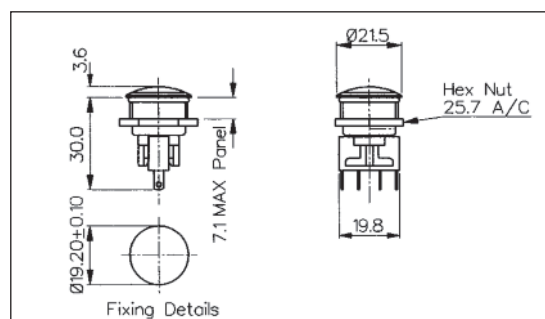
- Front Panel Sealed to IP68
- 21.5mm diameter
- Domed Profile
- S.P. Push to Make
- 1A, 50V a.c./d.c.



FRONT PANEL MOUNTING



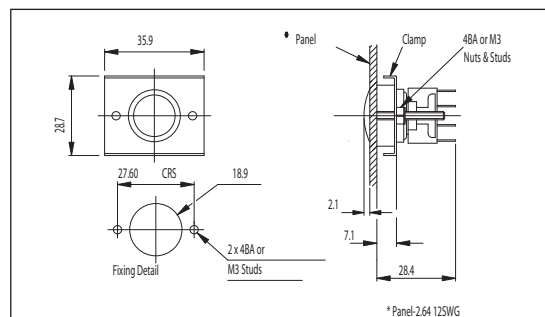
- Front Panel Sealed to IP66
- 21.5mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250V a.c.



REAR PANEL MOUNTING



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



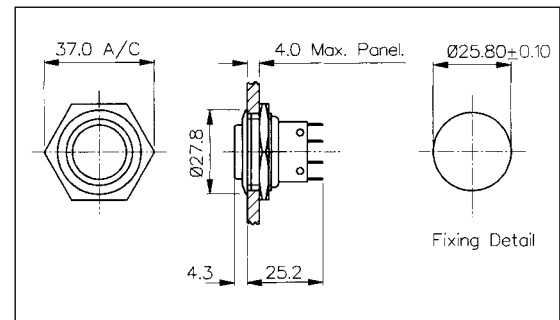
Specification	MP0037/3	MP0031/3	MP0034/3
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50V a.c./d.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 ⁵ MΩ	>10 ³ MΩ.	>10 ³ 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:		Non-Rotating Button, details on request	
RoHS	Compliant	Compliant	Compliant

Stainless Steel Prominent Button Vandal Resistant

FRONT PANEL MOUNTING



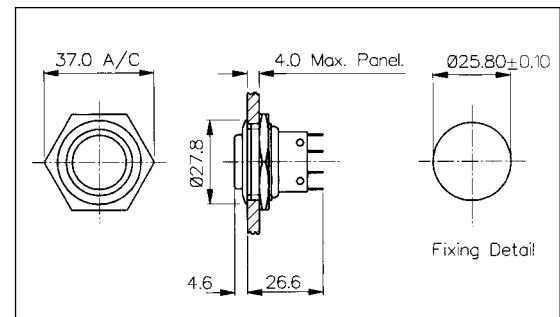
- 28mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250V a.c.



FRONT PANEL MOUNTING



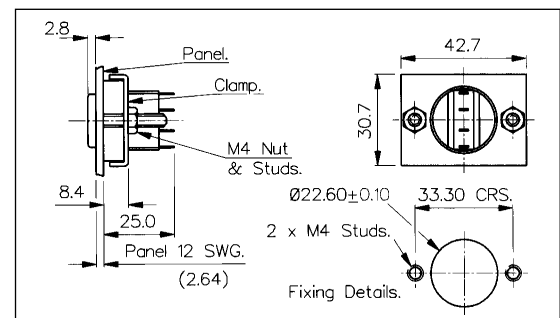
- Front Panel Sealed to IP66
- 28mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250V a.c.



REAR PANEL MOUNTING



- 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 ³ MΩ	>10 ³ MΩ.	>10 ³ 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
RoHS	Compliant	Compliant	Compliant

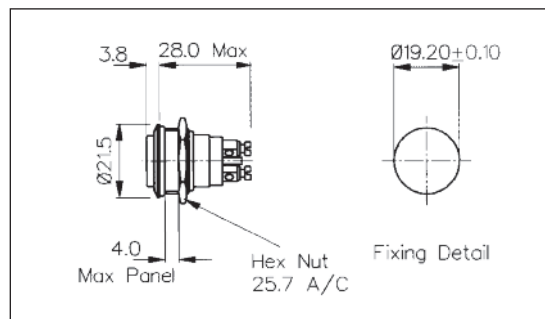
Stainless Steel Prominent Button Vandal Resistant

FRONT PANEL MOUNTING



MP0037/2
Sealed to IP68

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

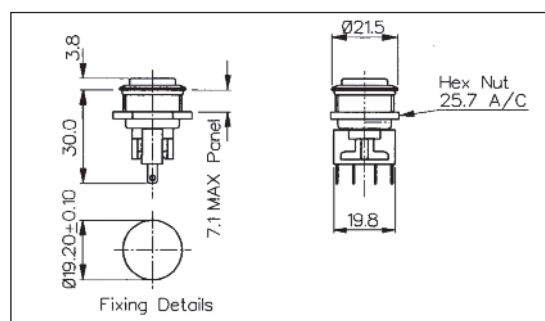


FRONT PANEL MOUNTING

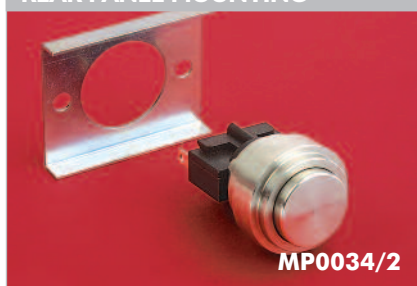


MP0031/2
Sealed to IP66

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

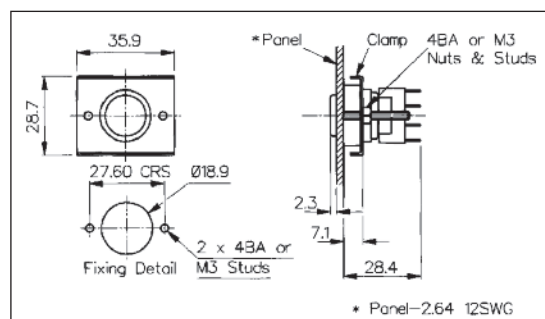


REAR PANEL MOUNTING



MP0034/2

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



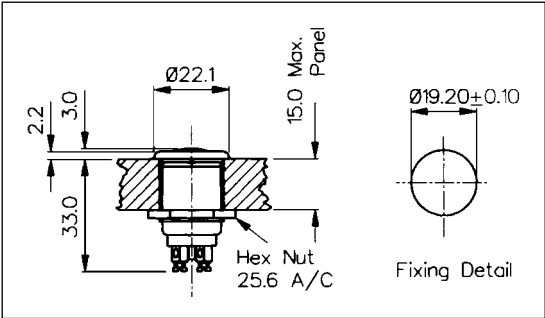
Specification	MP0037/2	MP0031/2	MP0034/2
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Slow momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50V a.c./d.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10 ⁵ MΩ	>10 ³ MΩ.	>10 ³ 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
RoHS	Compliant	Compliant	Compliant

Push Button

FRONT PANEL MOUNTING



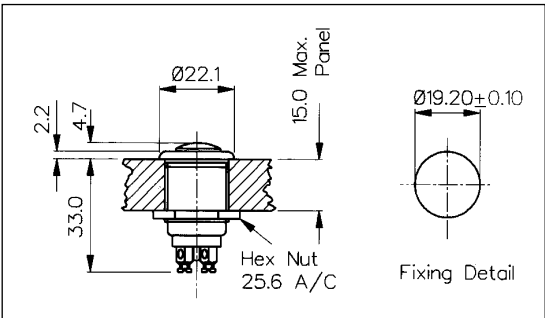
- Proud Fitting
- 22mm diameter
- S.P. Push to Make
- 1A, 50V
- Brass, Chrome Plated Body, Stainless Steel Button
- MP0033 Internally Sealed



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

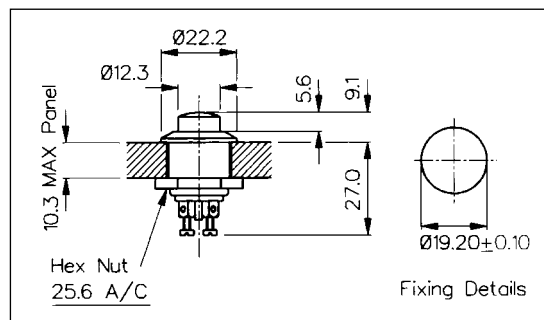


Specification	MP0013, MP0033	MP0013/2, MP0033/2
Terminations:	Screw Terminals	Screw Terminals
Switching:	S.P. Push to make Slow momentary action	S.P. Push to make Slow momentary action
Max. Rating:	1A, 50V a.c.	1A, 50V a.c.
Contact Resistance:	<15mΩ	<15mΩ
Insulation Resistance:	>10 ⁴ MΩ	>10 ⁴ MΩ
Dielectric 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:		
RoHS	Compliant	Compliant

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

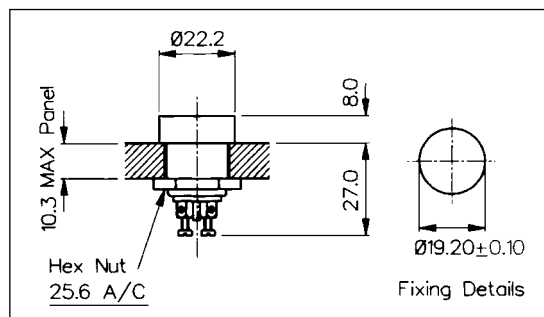


Fixing Details

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

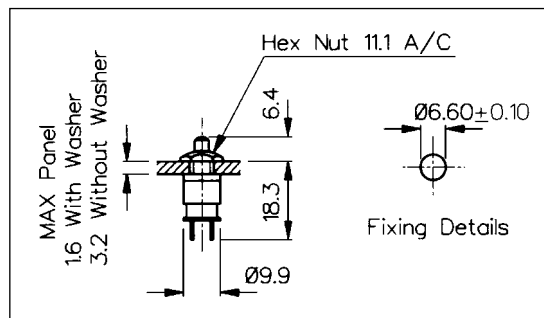


Fixing Details

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



Fixing Details

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 ⁴ MΩ	>10 ⁴ MΩ.	>10 ⁴ 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
Operating Pressure (typ):	936gms (33ozs)	936gms (33ozs)	634gms (22ozs)
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)
RoHS	Compliant	Compliant	Compliant

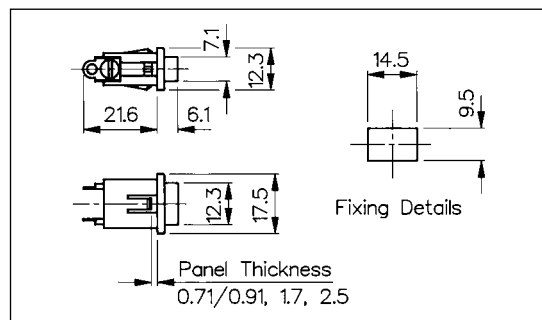
Push Button

FRONT PANEL MOUNTING



MP0022/Col

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

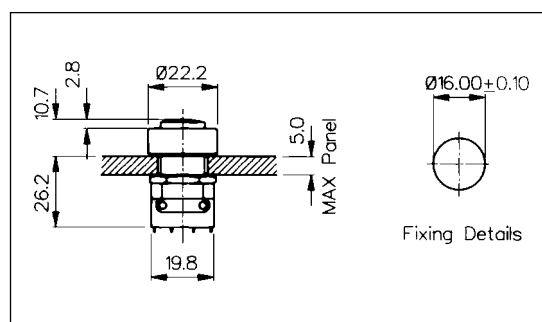


FRONT PANEL MOUNTING



SX0904/Col
(Sealed to IP66)

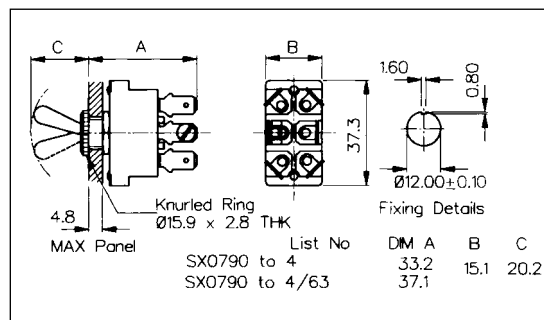
- Front Panel Sealed to IP66
- S.P.C.O. Microswitch
- Solder Tags
- 5A, 250V a.c.
- Black Anodised Aluminium Body
- Black, red or green Buttons



Specification	MP0022/Colour	SX0904/Colour
Terminations:	Solder Tags	Solder Tags
Switching:	S.P. Push to Make Slow Momentary Action	S.P.C.O. Momentary Action (Microswitch)
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.
Contact Resistance:	<15mΩ	<10mΩ
Insulation Resistance:	>10 ⁴ MΩ	>10 ³ MΩ.
Dielectric Strength:	>2.5kV a.c.	>2.0kV a.c.
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing:		Protection Classification IP66 EN60529 1992 (Microswitch not sealed)
Materials:		
Moulding:	Nylon	Glass Filled Nylon
Tags:	Brass, Silver Plated	Brass, Tin Plated
Body:	Nylon	Black anodised aluminium
Contacts/Terms:	Brass, Silver Plated	Fine Silver
Variants:	Button Colours: Standard - Black, /WH (White) and /RD (Red). /TERM - (Screw terminals)	Button Colours: Standard - Black, /RD (Red) and /GN (Green).
RoHS	Compliant	Compliant

Toggle
SINGLE POLE


- 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

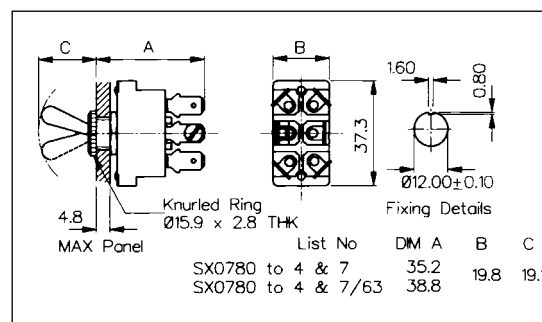
Specification	SX0790 Series		
Terminations:	Screw Terminals		
Switching:	See table for types Slow Make, Slow Break		
Max. Rating:	10A, 250V a.c. 10A, 0-28V d.c. (non-reactive circuits)		
Contact Resistance:	<10mΩ		
Insulation Resistance:	>10 ³ MΩ		
Dielectric Strength:	>2.5kV a.c.		
Operating Temp. Range:	-20°C to +85°C		
Materials:			
Mouldings:	Glass Filled Polyester		
Tags:	Brass, Silver Plated		
Contacts:	Copper with Silver face		
Variants:	/63 (6.3mm tabs) - (except SX0791)		
Accessories:	SX0550 (see page 195)		
RoHS	Compliant		

Toggle

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	SX0780 Series		
Terminations:	Screw Terminals		
Switching:	See table for types Slow Make, Slow Break		
Max. Rating:	10A, 250V a.c. 10A, 0-28V d.c. (non-reactive circuits)		
Contact Resistance:	<10mΩ		
Insulation Resistance:	>10 ³ MΩ		
Dielectric Strength:	>2.5kV a.c.		
Operating Temp. Range:	-20°C to +85°C		
Materials:			
Mouldings:	Glass Filled Polyester		
Tags:	Brass, Silver Plated		
Contacts/Terms:	Copper with Silver face		
Variants:	/63 (6.3mm tabs)		
Accessories:	SX0550 (see page 195)		
RoHS	Compliant		

PVC BOOT


- PVC Boot
- Water and Dust Resistant
- Glass Filled Nylon or Brass, Nickel Plated Insert
- For use with all BulginToggle 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
RoHS	Compliant	Compliant - 4th qtr 2005

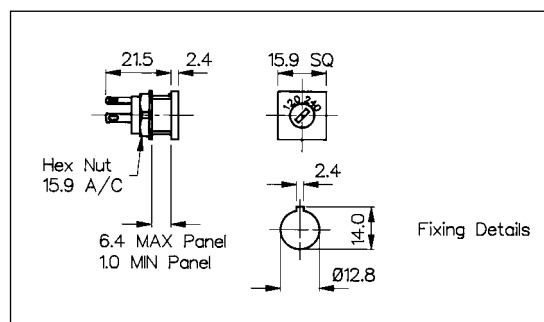
Voltage Selectors

120/240V VOLTAGE SELECTOR



VS0001

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

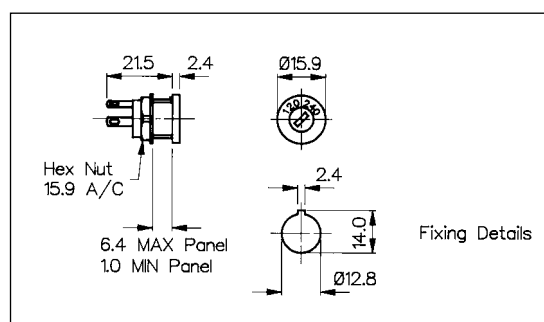


120/240V VOLTAGE SELECTOR

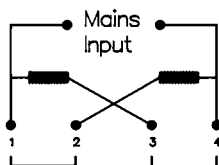


VS0002

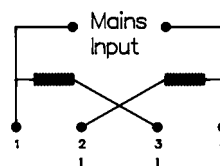
- 2.8 series tabs/Solder tags
- Round Front Bezel
- 6.3A
- CSA, SEMKO & VDE approvals



Connection Parallel 120V



Connection Series 240V



Specification

VS0001

VS0002

Max. Rating:

6.3A, 120/240V

6.3A, 120/240V

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

Approvals:



Variants:

Other markings, details on request

Other markings, details on request

RoHS

Compliant

Compliant