

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	Type	Page
Low Profile Vandal Resistant		Prominent Vandal Resistant	
MP0025	179	MP0027/2	188
MP0027	179	MP0038/2	188
MP0038	179	MP0025/2	188
MP0031	180	MP0037/2	189
MP0034	180	MP0031/2	189
MP0037	180	MP0034/2	189
Low Profile Vandal Resistant - Latching		Push Button	
MPL025	181	MP0013	190
MPL027	181	MP0033	190
MPL038	181	MP0013/2	190
MPL031	182	MP0033/2	190
MPL034	182	MP0012	191
Illuminated Vandal Resistant		MP0016	191
MPI001	183	MP0022	192
MPI002	183	SX0904	192
Brass Chrome Plated Vandal Resistant		Toggle	
MPB027	184	SX0790-SX0794	193
MPB038	184	SX0780-SX0787	194
MPB031	184	Accessories	195
MPB037	185	Voltage Selectors	
Domed Vandal Resistant		VS0001	196
MP0027/3	186	VS0002	196
MP0038/3	186		
MP0025/3	186		
MP0037/3	187		
MP0031/3	187		
MP0034/3	187		

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

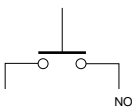
Examples

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

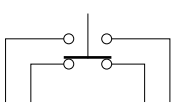
MP0027/2/1/13 = MP0027/2 style switch with prominent non-rotating button engraved with numeric characters 13

SWITCH OPERATION

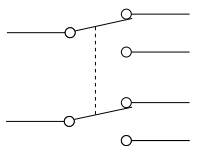
Switch Contact Operation



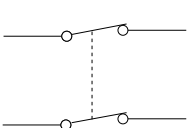
S.P. Push to Make
S.P.M.B.



S.P.C.O.



D.P.C.O.



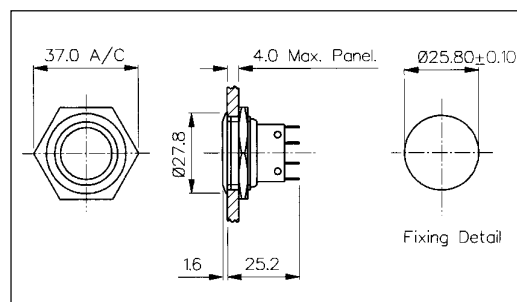
D.P.M.B.

Stainless Steel Low Profile Vandal Resistant - Momentary

FRONT PANEL MOUNTING



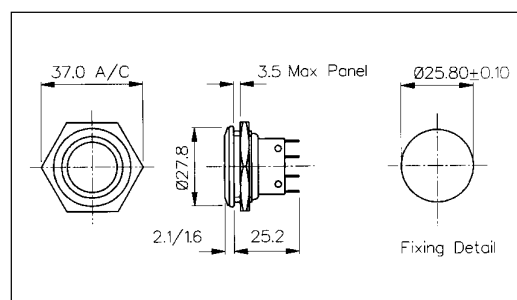
- 28mm diameter
- S.P.C.O. Microswitch
- 5A, 250V a.c.



FRONT PANEL MOUNTING



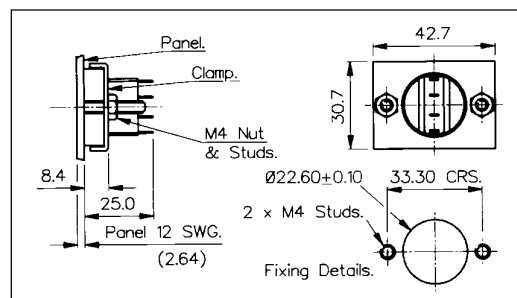
- Front Panel Sealed to IP66
- 28mm diameter
- S.P.C.O. Microswitch
- 5A, 250V a.c.



REAR PANEL MOUNTING



- 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 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

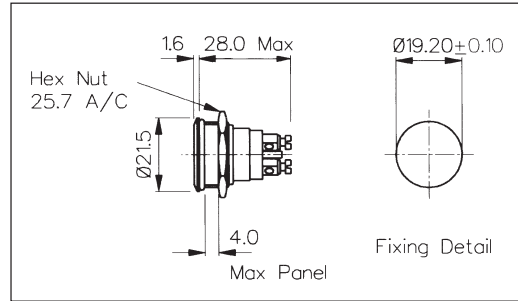
Stainless Steel Low Profile Vandal Resistant - Momentary

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

MP0037
Sealed to IP68

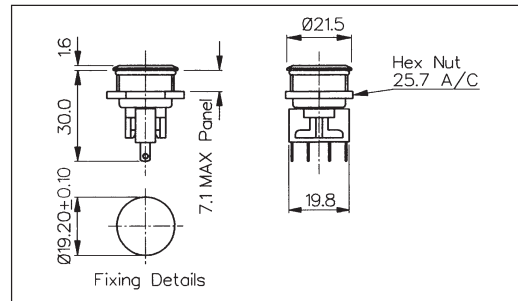


FRONT PANEL MOUNTING



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

MP0031
Sealed to IP66

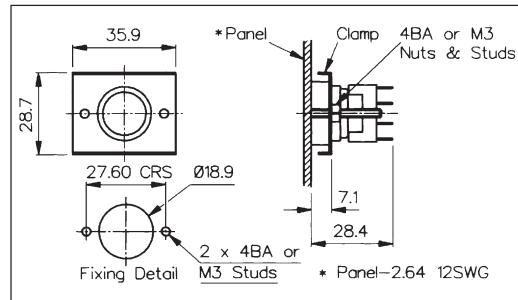


REAR PANEL MOUNTING



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

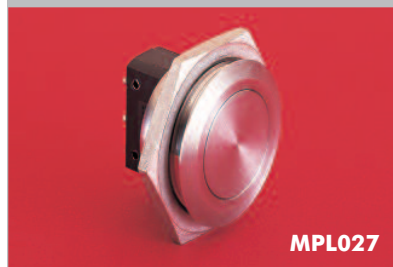
MP0034



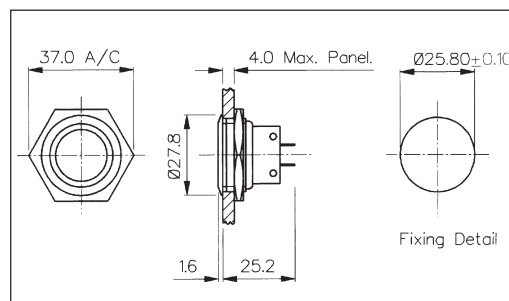
Specification	MP0037	MP0031	MP0034
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50V a.c./d.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	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



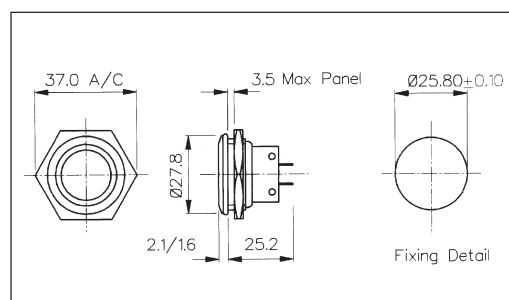
- 28mm diameter
- 2A, 50V a.c./d.c.
- Single pole push to make
- Latching switch



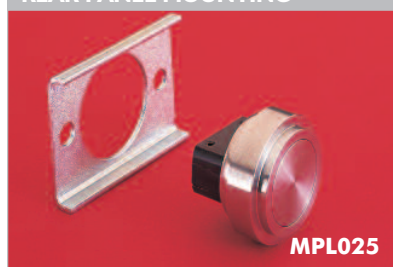
FRONT PANEL MOUNTING



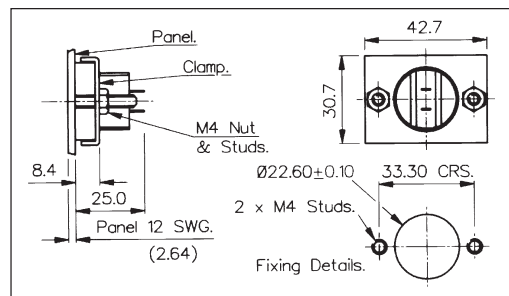
- Front Panel Sealed to IP66
- 28mm diameter
- 2A, 50V
- Single pole push to make
- Latching switch



REAR PANEL MOUNTING



- 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

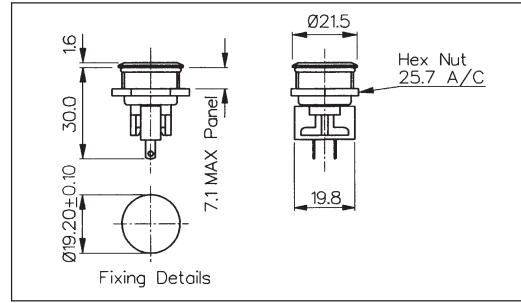
Stainless Steel Low Profile Vandal Resistant - Latching

FRONT PANEL MOUNTING

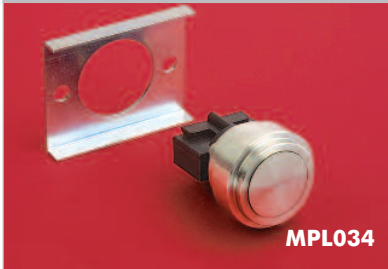


MPL031
Sealed to IP66

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

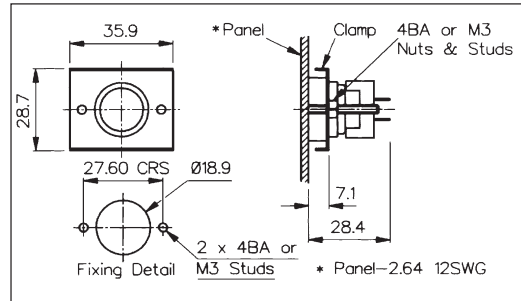


REAR PANEL MOUNTING



MPL034

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



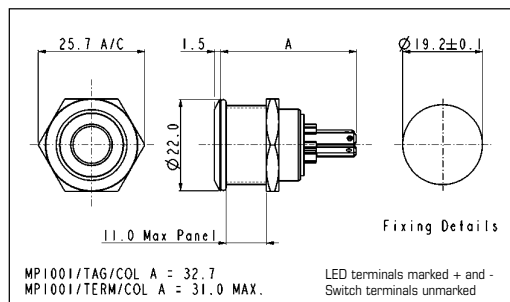
Specification	MPL031	MPL034
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.M.B. - Latching	S.P.M.B. - Latching
Max. Rating:	2A, 50V a.c./d.c.	2A, 50V
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 ³ MΩ	>10 ³ MΩ
Dielectric Strength:	>2.0kV a.c.	>2.0kV a.c.
Operating Temp. Range:	-20°C 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



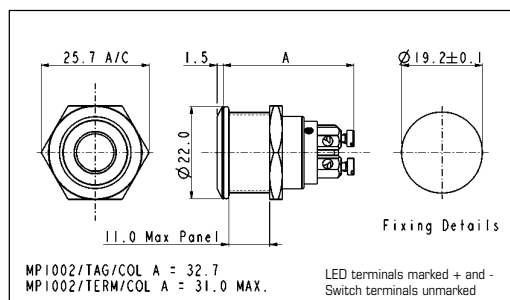
- Dot Illuminated
- 22mm diameter
- S.P. Push to Make
- 50mA, 24V dc contact rating
- Red, Green, Amber, Blue or White Illumination
- Bright Daylight LEDs
- Separate LED Terminals



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



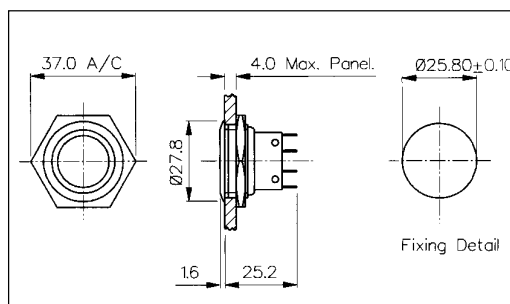
Specification	MPI001/Termination/Col	MPI002/Termination/Col
Terminations:	/28 (2.8mm tabs), /Term (screw terminals)	/28 (2.8mm tabs), /Term (screw terminals)
Switching:	S.P. Push to make, tactile	S.P. Push to make, tactile
Max. Switch Rating:	50mA, 24V d.c.	50mA, 24V d.c.
LEDs (ratings @ 20mA)		
Colours	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	Compliant

Low Profile Brass Chrome Plated Vandal Resistant

FRONT PANEL MOUNTING



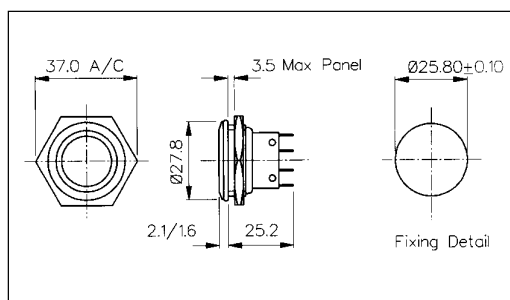
- 28mm diameter
- S.P.C.O. Microswitch
- 5A, 250V a.c.



FRONT PANEL MOUNTING



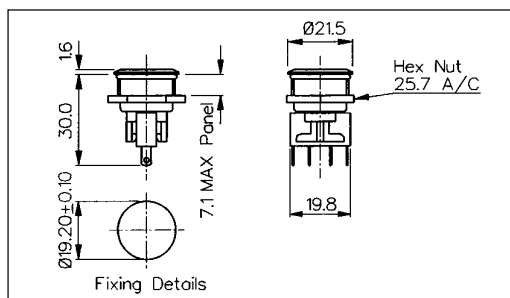
- Front Panel Sealed to IP66
- 28mm diameter
- S.P.C.O. Microswitch
- 5A, 250V a.c.



FRONT PANEL MOUNTING



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



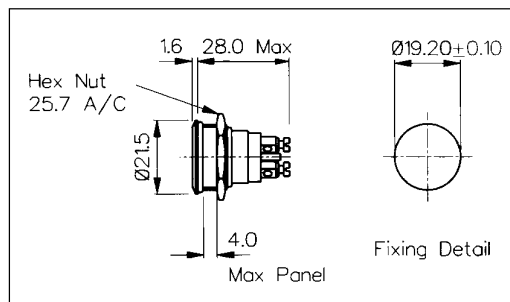
Specification	MPB027	MPB038	MPB031
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250V a.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<10mΩ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



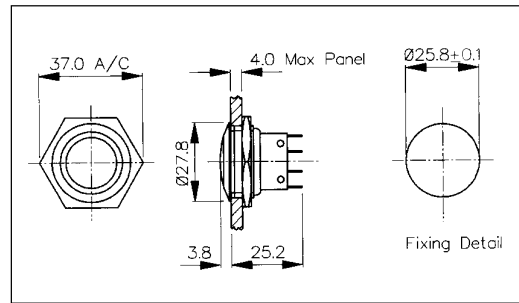
Specification	MPB037		
Terminations:	Screw Terminals		
Switching:	S.P. Push to make Momentary action		
Max. Rating:	1A, 50V		
Contact Resistance:	<10mΩ		
Insulation Resistance:	>10 ⁵ MΩ		
Dielectric Strength:	>1.0kV a.c.		
Operating Temp. Range:	-20°C to +70°C		
Sealing (Front of panel only):	Protection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

Stainless Steel Domed Vandal Resistant

FRONT PANEL MOUNTING



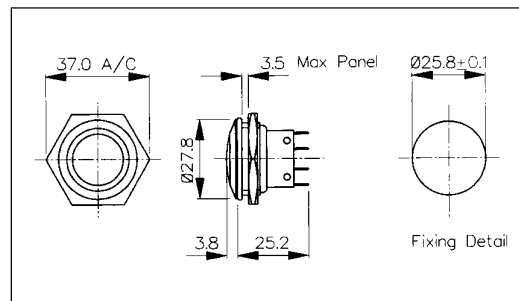
- 28mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250V a.c.



FRONT PANEL MOUNTING



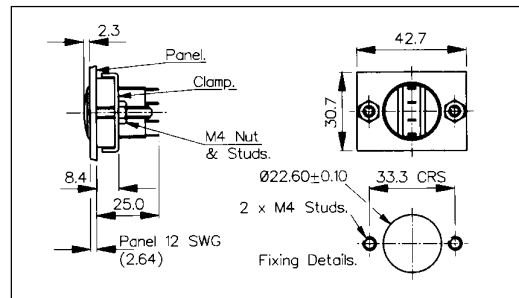
- Front Panel Sealed to IP66
- 28mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250V a.c.



REAR PANEL MOUNTING



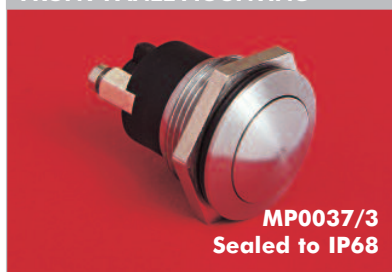
- 22mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250V a.c.



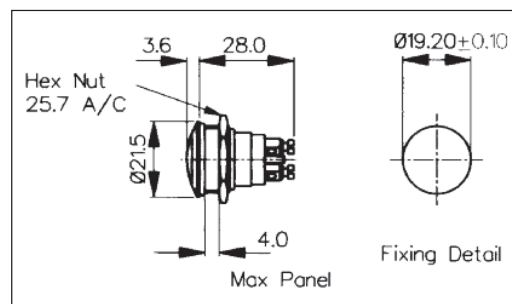
Specification	MP0027/3	MP0038/3	MP0025/3
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250V a.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ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



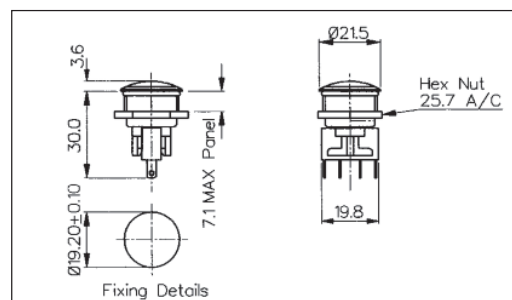
- Front Panel Sealed to IP68
- 21.5mm diameter
- Domed Profile
- S.P. Push to Make
- 1A, 50V a.c./d.c.



FRONT PANEL MOUNTING



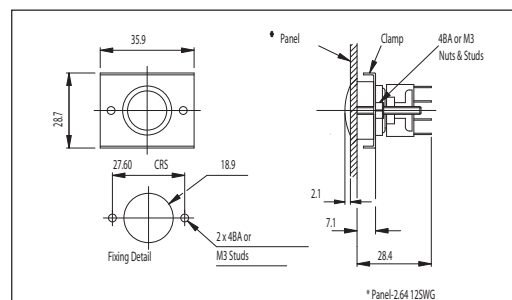
- Front Panel Sealed to IP66
- 21.5mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250V a.c.



REAR PANEL MOUNTING



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



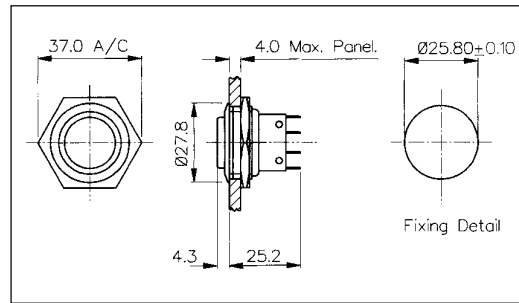
Specification	MP0037/3	MP0031/3	MP0034/3
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50V a.c./d.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	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



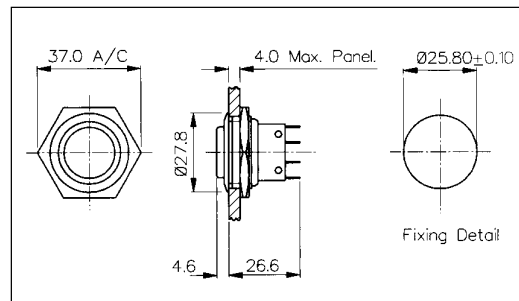
- 28mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250V a.c.



FRONT PANEL MOUNTING



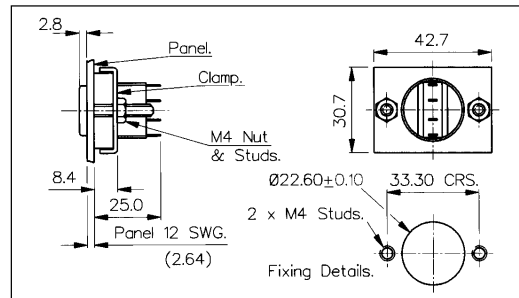
- Front Panel Sealed to IP66
- 28mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250V a.c.



REAR PANEL MOUNTING



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



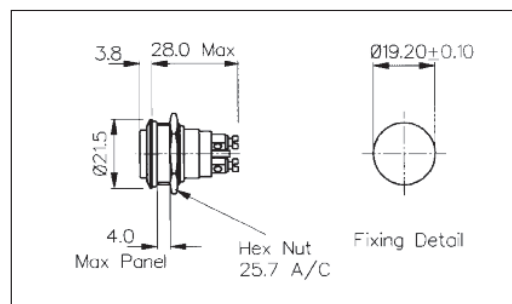
Specification	MP0027/2	MP0038/2	MP0025/2
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250V a.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance:	<10mΩ	<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



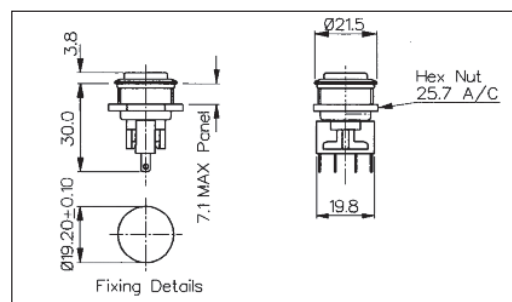
- Front Panel Sealed to IP68
- 21.5mm diameter
- Prominent Button
- S.P. Push to Make
- 1A, 50V a.c./d.c.



FRONT PANEL MOUNTING



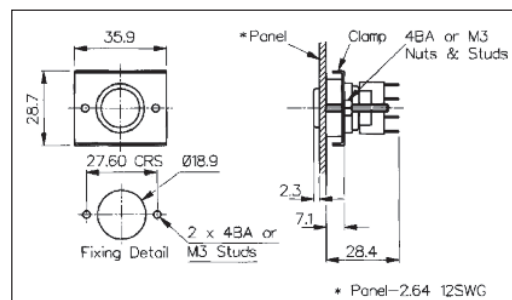
- Front Panel Sealed to IP66
- 21.5mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250V a.c.



REAR PANEL MOUNTING



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



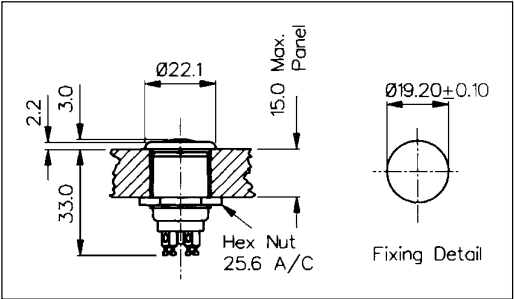
Specification	MP0037/2	MP0031/2	MP0034/2
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Slow momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50V a.c./d.c.	5A, 250V a.c.	5A, 250V a.c.
Contact Resistance: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



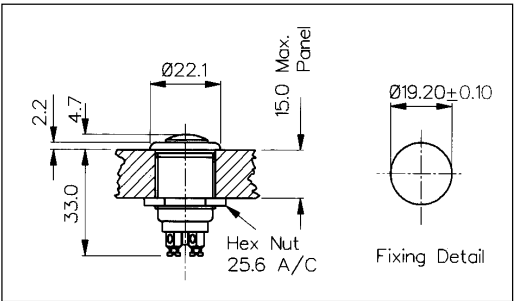
- Proud Fitting
- 22mm diameter
- S.P. Push to Make
- 1A, 50V
- Brass, Chrome Plated Body, Stainless Steel Button
- MP0033 Internally Sealed



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

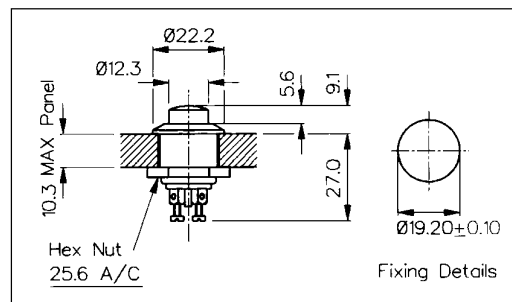


Specification	MP0013, MP0033	MP0013/2, MP0033/2
Terminations:	Screw Terminals	Screw Terminals
Switching:	S.P. Push to make Slow momentary action	S.P. Push to make Slow momentary action
Max. Rating:	1A, 50V a.c.	1A, 50V a.c.
Contact Resistance:	<15mΩ	<15mΩ
Insulation Resistance:	>10 ⁴ MΩ	>10 ⁴ MΩ
Dielectric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

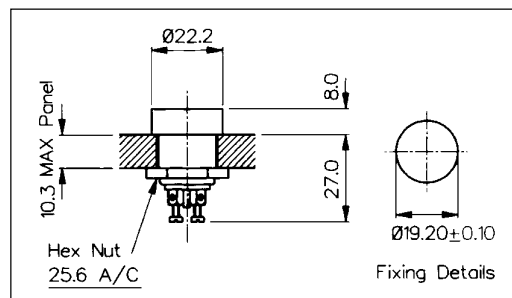
MP0012/Col

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


FRONT PANEL MOUNTING

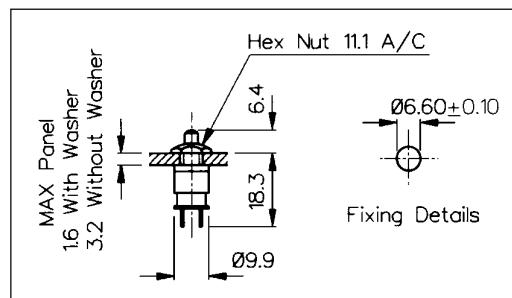
MP0012/1/Col

- 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:	<15m Ω	<15m Ω	<15m Ω
Insulation Resistance:	>10 ⁴ M Ω	>10 ⁴ M Ω .	>10 ⁴ M Ω
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

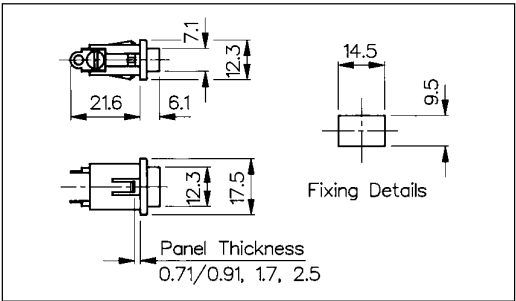
Push Button

FRONT PANEL MOUNTING



MP0022/Col

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

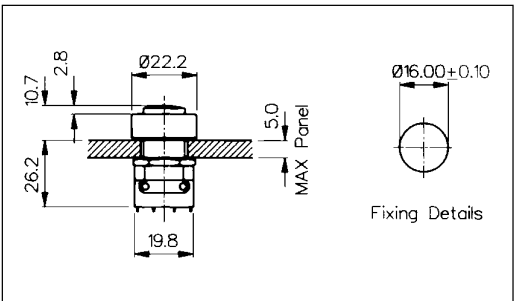


FRONT PANEL MOUNTING



SX0904/Col
(Sealed to IP66)

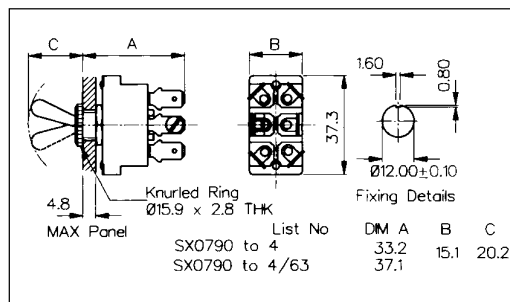
- Front Panel Sealed to IP66
- S.P.C.O. Microswitch
- Solder Tags
- 5A, 250V a.c.
- Black Anodised Aluminium Body
- Black, red or green Buttons



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

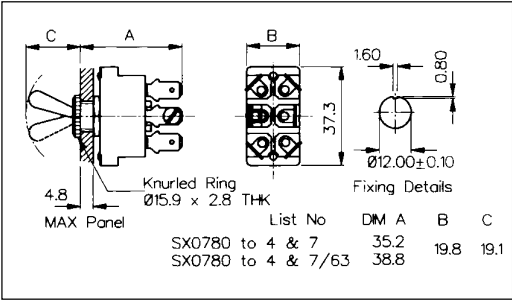
Specification	SX0790 Series		
Terminations:	Screw Terminals		
Switching:	See table for types Slow Make, Slow Break		
Max. Rating:	10A, 250V a.c. 10A, 0-28V d.c. (non-reactive circuits)		
Contact Resistance:	<10mΩ		
Insulation Resistance:	>10 ³ MΩ		
Dielectric Strength:	>2.5kV a.c.		
Operating Temp. Range:	-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

SX0550

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

SILICON RUBBER BOOT

NX1030

- Completely Covers Toggle
- Brass, Nickel Plated Insert

SILICON RUBBER BOOT

NX1030/B

- Switch Toggle Protrudes
- Brass, Nickel Plated Insert

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

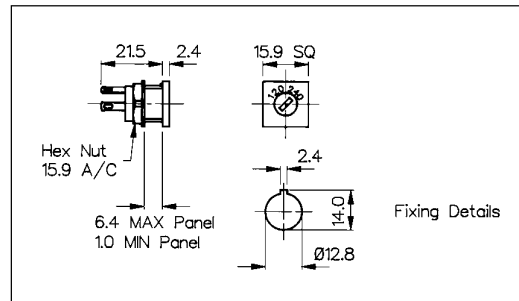
Voltage Selectors

120/240V VOLTAGE SELECTOR



VS0001

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

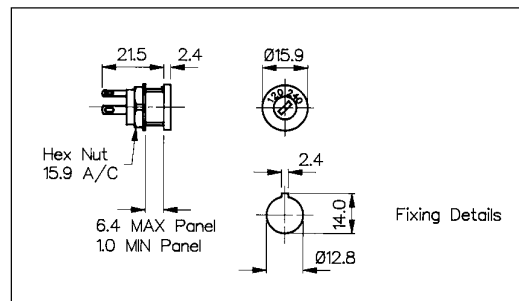


120/240V VOLTAGE SELECTOR

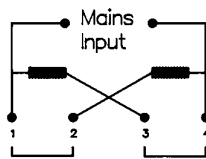


VS0002

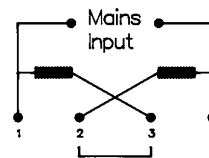
- 2.8 series tabs/Solder tags
- Round Front Bezel
- 6.3A
- CSA, SEMKO & VDE approvals









Connection Parallel 120V



Connection Series 240V



Specification	VS0001	VS0002
Max. Rating:	6.3A, 120/240V	6.3A, 120/240V
Insulation Resistance:	>10 ⁶ MΩ	>10 ⁶ 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