

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

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

Features:

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

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

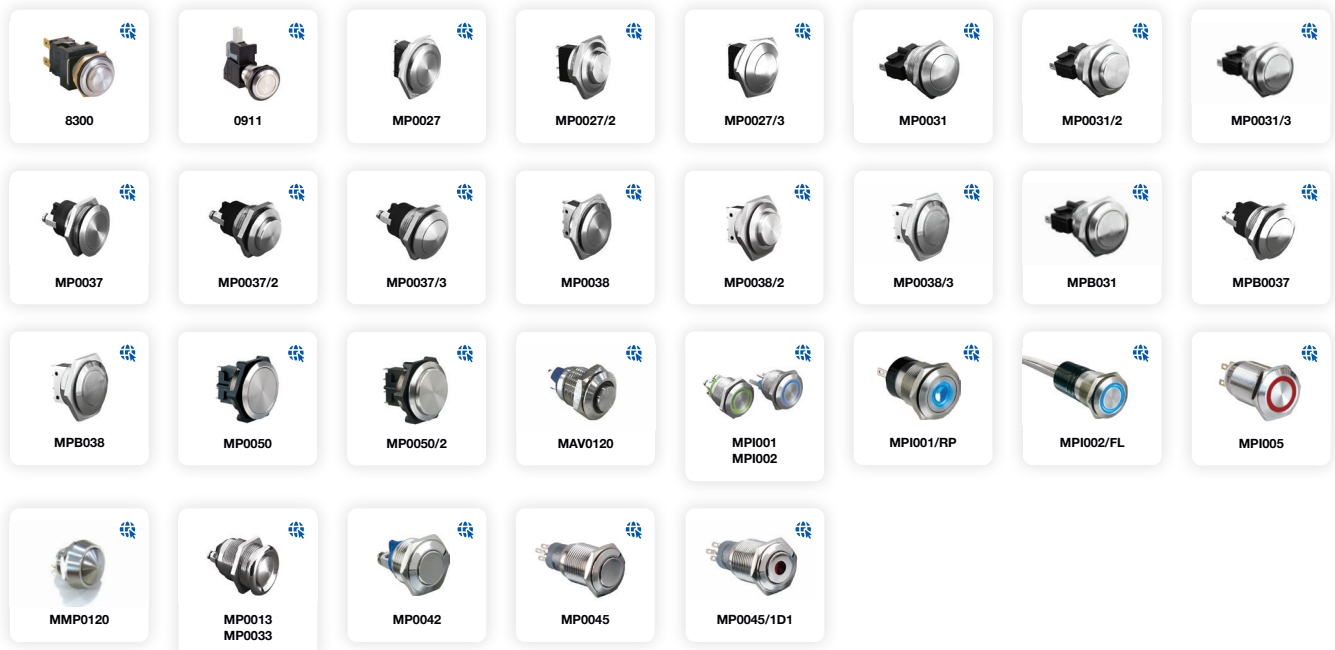


Body Style & Part Number Information:

// Vandal Resistant Switches

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

// Vandal Resistant Switch Product Range:





H8300RP - - -

Key Features

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

Approvals and specifications

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

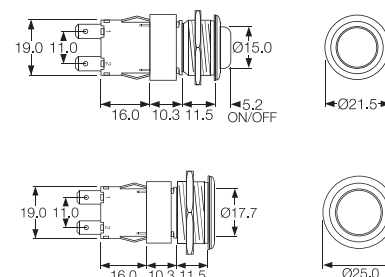
 **12A 250Vac DP, 13A 250Vac SP**
250Vac 1hp, 125Vac 1/2hp
UL 85°C, file E45221

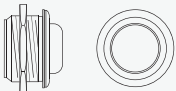
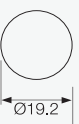
In house test:
 10(10)A 250Vac—Indicative rating only

3mm contact gap.

Dimensions

8300RP (H terminals shown)



Terminal	Function	Actuator	Body Code
C  10.1 H  8.5	8300 (alternate) Single Contact ON - OFF 	R (for P body only) Raised top (stainless steel) 	
K  8.5 T  7.0	8301 (momentary ON) Single Contact ON - OFF 	V Flat top (stainless steel) 	P (for R actuator only) Stainless steel, Soft profile bezel  Ø19.2
V  4.3 X  7.0	8351 (momentary ON) Double Contact ON - OFF 		M Stainless steel  Ø22.5
	8350 (alternate) Double Contact ON - OFF 		



C0911VA - - -

Key Features

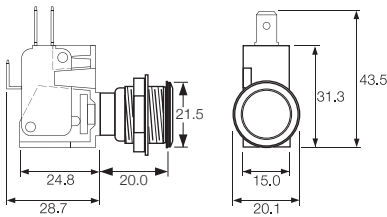
- Snap action switches
- Ratings up to 16A, 250Vac
- Round and rectangular buttons
- Single Contact C/O Switch

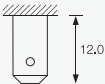
Approvals and specifications

Approvals apply to switch mechanism only.
μ contact gap.

Dimensions

C0911VA



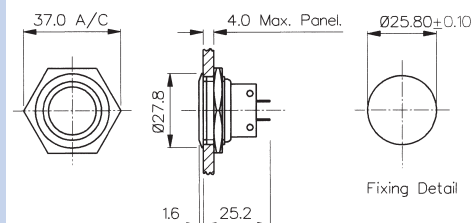
Terminal	Function	Actuator	Body Code
	0911 (momentary) ON - ON 	V Flat top (stainless steel) 	A Stainless steel Chamfer profile bezel  Panel cut-out Panel thickness up to 8.0mm

Front Panel Mounting



MP0027

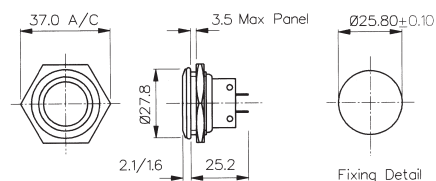
- ⬡ 28mm diameter
- ⬡ S.P.C.O. Microswitch
- ⬡ 5A, 250Vac



Front Panel Mounting

MP0038
Sealed to IP66

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



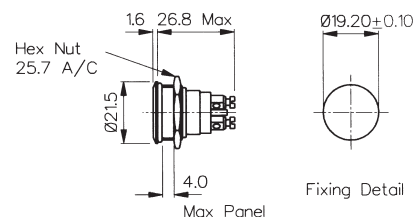
Specifications	MP0027	MP0038
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 ³ MΩ	>10 ³ MΩ
Dielectric Strength: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

Front Panel Mounting



MP0037
Sealed to IP68

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

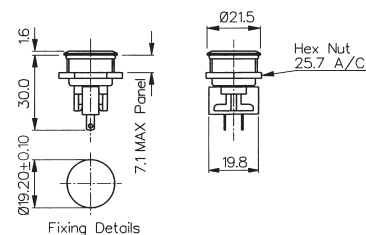


Front Panel Mounting



MP0031
Sealed to IP66

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



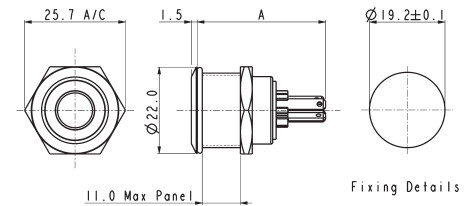
Specifications	MP0037	MP0031
Terminations:	Screw Terminals	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 ⁵ MΩ	>10 ³ MΩ
Dielectric Strength:	>1.0kVac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

Front Panel Mounting



MPI001 - front panel seal to IP66

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



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

Specifications

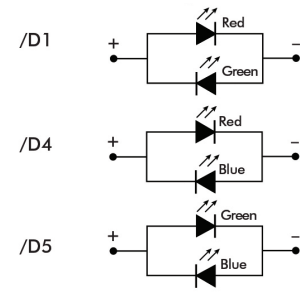
MPI001/Termination/Colour/Voltage

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



Compliant

Dual Colour LED Configuration

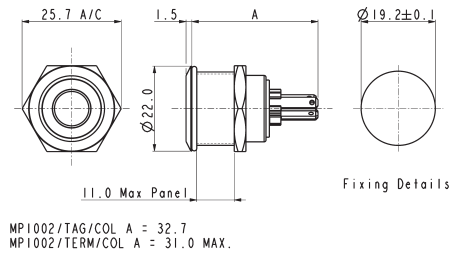


Front Panel Mounting



MPI002- front panel seal to IP66

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



Specifications

MPI002/Termination/Colour/Voltage

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

Dual Colour LED Configuration

/D1

+

Red

Green

/D4

+

Red

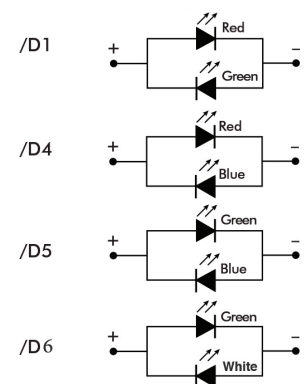
Blue

Green



Compliant

Dual Colour LED Configuration

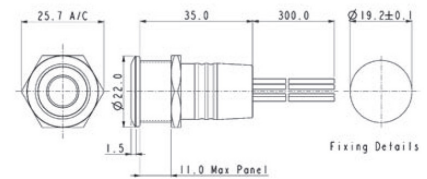


Rear Panel Sealed - Flying Leads



MPI002/FL/xx/x

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



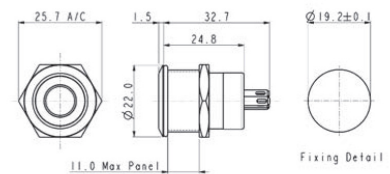
Flying lead colours: LED: red + and black -. Switch contacts: white.

Rear Panel Sealed - Solder Tags



MPI001/RP/xx/x

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



LED terminals marked + and -. Switch terminals unmarked.

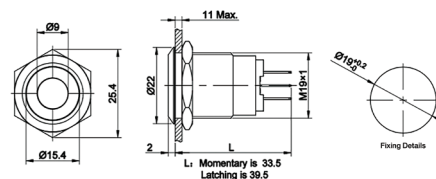
Specifications	MPI001/Termination/Colour/Voltage					MPI002/Termination/Colour/Voltage				
Illumination style:	Dot					Ring				
Terminations:	/FL (Flying leads) /RP (Solder tags)					/FL (Flying leads) /RP (Solder tags)				
Switching:	Single Contact, push to make, tactile (momentary action)					Single Contact, push to make, tactile (momentary action)				
Max. Switch Rating:	50mA, 24Vdc					50mA, 24Vdc				
LEDs (ratings @ 20mA)										
Part No.	/RD	/GN	/AM	/BL	/WH	/RD	/GN	/AM	/BL	/WH
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
Forward Current	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA
Moulding Colour	Red	Green	Amber	Blue	White	Red	Green	Amber	Blue	White
Illumination Voltage:	/no suffix No resistor fitted. An appropriate resistor must be series connected by the user. Voltages as above.					/no suffix No resistor fitted. An appropriate resistor must be series connected by the user. Voltages as above.				
	/6	6Vdc				/6	6Vdc			
	/12	12Vdc				/12	12Vdc			
	/24	24Vdc				/24	24Vdc			
Contact Resistance:	<100mΩ					<100mΩ				
Insulation Resistance:	>10 ⁹ MΩ					>10 ⁹ MΩ				
Dielectric Strength:	Contact to Panel >2.0kV Contact to Contact 1500					Contact to Panel >2.0kV Contact to Contact 1500				
Operating Temp. Range:	-30°C to +70°C					-30°C to +70°C				
Sealing (Front of panel only):	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)					Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)				
Operations										
Mechanical:	750,000 (min)					35,000 (min)				
Electrical:	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				
Thread size:	18.97mm x 26TPI					18.97mm x 26TPI				
	Compliant					Compliant				

Low Profile

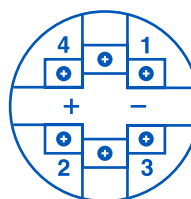


MPI005

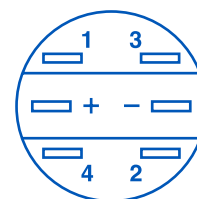
- 22mm bezel diameter
- 19.2mm $\pm$ 0.2mm fixing hole diameter
- S.P.C.O



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



Screw Layout



Plug Layout

Specifications

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

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

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

Examples:

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

Note:

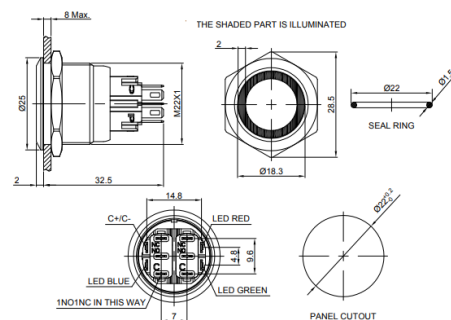
Power Symbol / Ring not available in black anodized aluminum

MP22 Ring Illuminated RGB Switches



MP22XXQRXQXXXXX

- Ring Illuminated RGB vandal resistant switch
- LED voltages available: 6v, 12v, 24v
- Available in Stainless steel or Black coated Aluminium
- Choice of IP65 or IP67
- SPDT and DPDT options available
- Can support Latching or Momentary action
- Choice of Anode common or Cathode Common



Power Symbol Illuminated

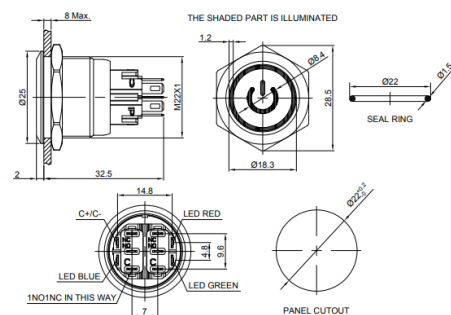
Series	Contact Structure	Operation	Illumination	Common Pin	LED Colour	LED Voltage	Shell Material	IP Rating
MP22	S - SPDT	L - Latching	QR - RGB Ring Illumination	CC - Cathode	Q - RGB	006 - 6V	S - Stainless steel	5 - IP65
	D - DPDT	M - Momentary		AC - Anode		012 - 12V	A - Black Aluminium	7 - IP67
						024 - 24V		

MP22 Power Symbol Illuminated RGB Switches



MP22XXQPXXQXXXXX

- Power Symbol Illuminated RGB vandal resistant switch
- LED voltages available: 6v, 12v, 24v
- Available in Stainless steel or Black coated Aluminium
- Choice of IP65 or IP67
- SPDT and DPDT options available
- Can support Latching or Momentary action
- Choice of Anode common or Cathode Common



Ring Illuminated

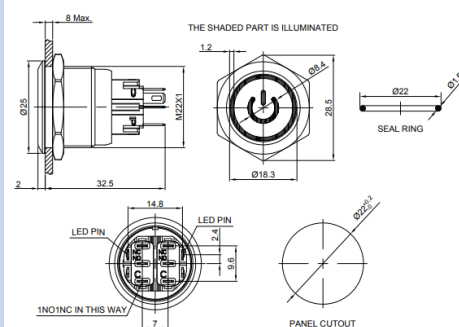
Series	Contact Structure	Operation	Illumination	Common Pin	LED Colour	LED Voltage	Shell Material	IP Rating
MP22	S - SPDT	L - Latching	QP - RGB Power Symbol	CC - Cathode	R - Red	006 - 6V	S - Stainless steel	5 - IP65
	D - DPDT	M - Momentary		AC - Anode		012 - 12V	A - Black Aluminium	7 - IP67
						024 - 24V		

Power Symbol Illuminated vandal resistant switch



MP22XXPINRXXXXXX

- Power Symbol Illuminated vandal resistant switch
- Available in Red, Green, Blue, Yellow, White
- LED voltages available: 6v, 12v, 24v, 110v, 220v
- Available in Stainless steel or Black coated Aluminium
- Choice of IP65 or IP67
- SPDT and DPDT options available
- Latching and momentary options available



Power Symbol Illuminated

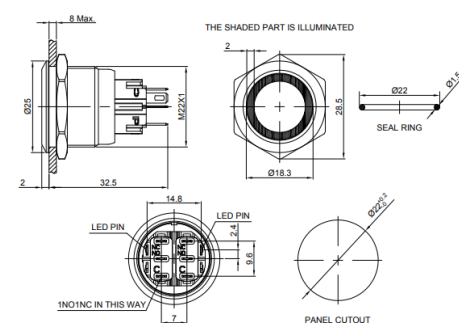
Series	Contact Structure	Operation	Illumination	Common Pin	LED Colour	LED Voltage	Shell Material	IP Rating
MP22	S - SPDT	L - Latching	RI - Ring Illuminated	NR - Not applicable	R - Red	006 - 6V	S - Stainless steel	5 - IP65
	D - DPDT	M - Momentary			G - Green	012 - 12V	A - Black Aluminium	7 - IP67
					Y - Yellow	024 - 24V		
					B - Blue	110 - 110V		
					W - White	220 - 220V		

Ring Illuminated vandal resistant switch



MP22XXRINRXXXXXX

- Ring Illuminated vandal resistant switch
- Available in Red, Green, Blue, Yellow, White
- LED voltages available: 6v, 12v, 24v, 110v, 220v
- Available in Stainless steel or Black coated Aluminium
- Choice of IP65 or IP67
- SPDT and DPDT options available
- Latching and momentary options available



Ring Illuminated

Series	Contact Structure	Operation	Illumination	Common Pin	LED Colour	LED Voltage	Shell Material	IP Rating
MP22	S - SPDT	L - Latching	RI - Ring Illuminated	NR - Not applicable	R - Red	006 - 6V	S - Stainless steel	5 - IP65
	D - DPDT	M - Momentary			G - Green	012 - 12V	A - Black Aluminium	7 - IP67
					Y - Yellow	024 - 24V		
					B - Blue	110 - 110V		
					W - White	220 - 220V		

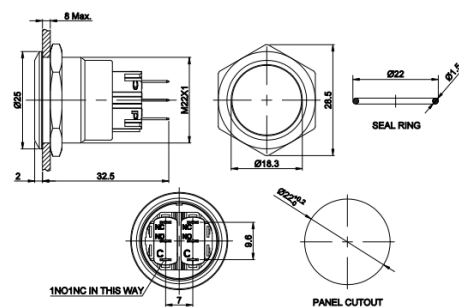
MP22 Non Illuminated Vandal Resistant Switch

Non Illuminated vandal resistant switch



MP22XXNINRN000XX

- Non illuminated vandal resistant switch
- SPDT and DPDT options available
- Available in Stainless steel or Black coated Aluminium
- Choice of IP65 or IP67
- Can support Latching or Momentary action



Not Illuminated

Series	Contact Structure	Operation	Illumination	Common Pin	LED Colour	LED Voltage	Shell Material	IP Rating
MP22	S - SPDT	L - Latching	NI - Not Illuminated	NR - Not applicable	N - No LED	000 - No Resistor	S - Stainless steel	5 - IP65
	D - DPDT	M - Momentary					A - Black Aluminium	7 - IP67

General Specifications

Electrical

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

Mechanical

Mechanical Life	Momentary: ≥1,000,000 cycles, ≥Latching: 500,000 cycles
Torque	About 1.0N·m applied to nut
Operating Force	About 3N(1NO1NC), About 4N(2NO2NC)
Operating Travel	About 3mm
Front Panel IP Protection	IP65 & IP67
IK Rating	IK09
Operating Temperature	-25°C~+55°C
Panel Mount Cutout	22mm
Max Panel Thickness	8mm

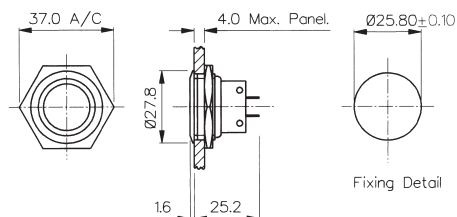
Materials

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

Front Panel Mounting


MPB038
 Sealed to IP66

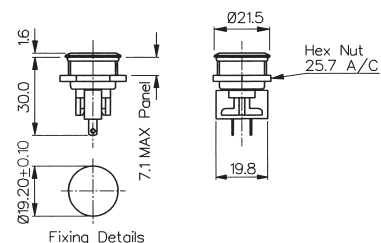
- Front Panel Sealed to IP66
- 28mm diameter
- S.P.C.O. Microswitch
- 5A, 250Vac



Front Panel Mounting


MPB031
 Sealed to IP66

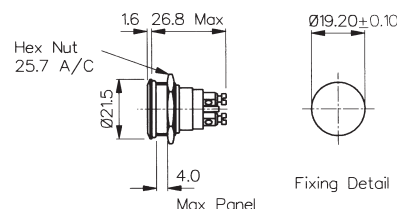
- Front Panel Sealed to IP66
- 21mm diameter
- S.P.C.O. Microswitch
- 5A, 250Vac



Front Panel Mounting


MPB037
 Sealed to IP68

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



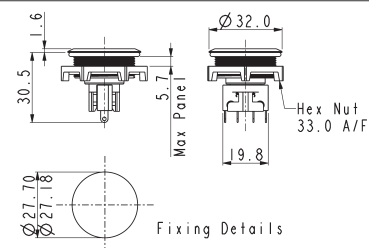
Specifications	MPB038	MPB031	MPB037
Terminations:	Solder Tags	Solder Tags	Screw Terminals
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P. Push to make Momentary action
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc	1A, 50Vac/dc
Contact Resistance: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

Front Panel Mounting - Low Profile



MP0050

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

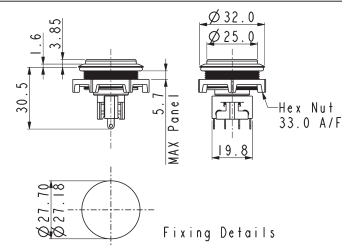


Front Panel Mounting - Protruding Profile



MP0050/2

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



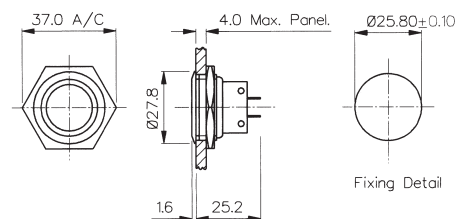
Specifications	MP0050	MP0050/2
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 ³ MΩ	>10 ³ MΩ
Dielectric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

Front Panel Mounting



MP0027/3

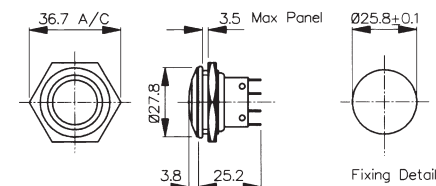
- 28mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250Vac



Front Panel Mounting

MP0038/3
Sealed to IP66

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

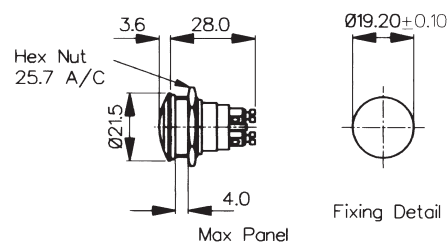


Specifications	MP0027/3	MP0038/3
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 ³ MΩ	>10 ³ MΩ
Dielectric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

Front Panel Mounting

MP0037/3
Sealed to IP68

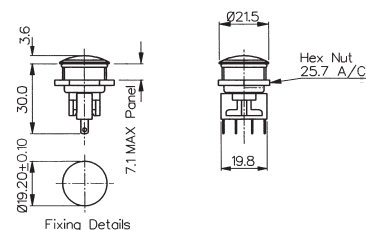
- Front Panel Sealed to IP68
- 21.5mm diameter
- Domed Profile
- S.P. Push to Make
- 1A, 50Vac/dc



Front Panel Mounting

MP0031/3
Sealed to IP66

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



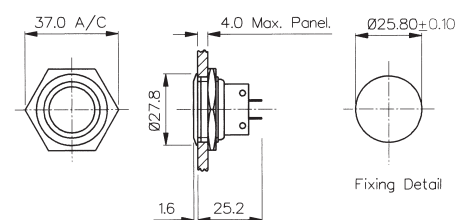
Specifications	MP0037/3	MP0031/3
Terminations:	Screw Terminals	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 ⁵ MΩ	>10 ³ MΩ
Dielectric Strength: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

Front Panel Mounting



MP0027/2

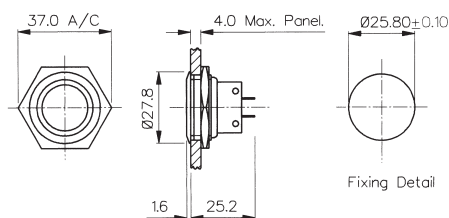
- 28mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250Vac



Front Panel Mounting

MP0038/2
Sealed to IP66

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

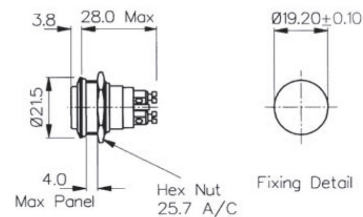


Specifications	MP0027/2	MP0038/2
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 ³ MΩ	>10 ³ MΩ
Dielectric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

Front Panel Mounting

MP0037/2
Sealed to IP68

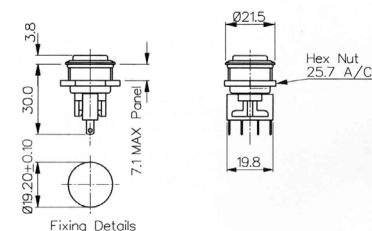
- Front Panel Sealed to IP68
- 21.5mm diameter
- Prominent Button
- S.P. Push to Make
- 1A, 50Vac/dc



Front Panel Mounting

MP0031/2
Sealed to IP66

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



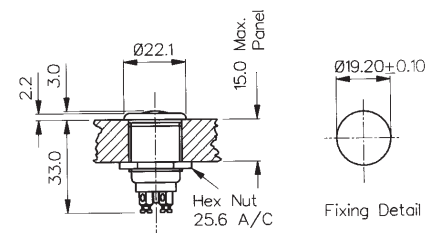
Specifications	MP0037/2	MP0031/2
Terminations:	Screw Terminals	Solder Tags
Switching:	S.P. Push to make Slow momentary action	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 ⁵ MΩ	>10 ³ MΩ
Dielectric Strength: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

Front Panel Mounting



MP0013
MP0033

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

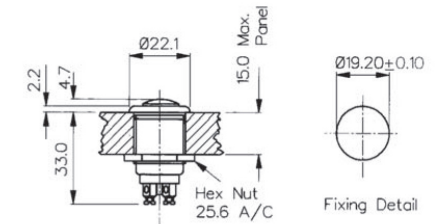


Front Panel Mounting



MP0013/2
MP0033/2

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



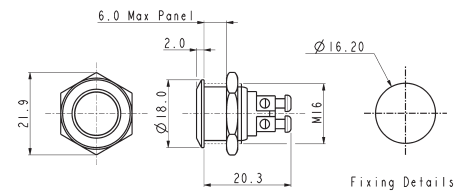
Specifications	MP0013, MP0033	MP0013/2, MP0033/2
Terminations:	Screw Terminals	Screw Terminals
Switching:	S.P. Push to make Slow momentary action	S.P. Push to make Slow momentary action
Max. Rating:	1A, 50Vac/dc	1A, 50Vac/dc
Contact Resistance:	<15mΩ	<15mΩ
Insulation Resistance:	>10 ⁴ MΩ	>10 ⁴ MΩ
Dielectric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

Flush Profile



MP0042/1

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

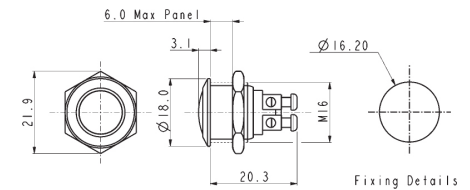


Domed Profile



MP0042/2

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

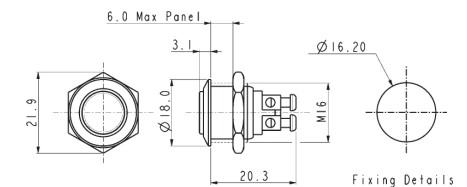


Prominent Button



MP0042/3

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



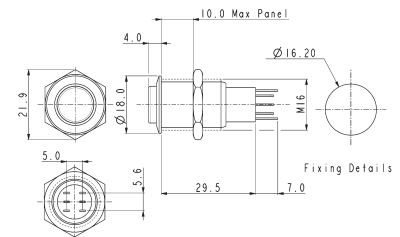
Specifications	MP0042/1	MP0042/2	MP0042/3
Terminations:	Screw Terminals	Screw Terminals	Screw Terminals
Switching:	S.P. Push to make	S.P. Push to make	S.P. Push to make
Max. Rating:	2A, 36Vdc	2A, 36Vdc	2A, 36Vdc
Contact Resistance:	50mΩ at 1A, 2V	50mΩ at 1A, 2V	50mΩ at 1A, 2V
Insulation Resistance:	>10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

Low Profile



MP0045/1D

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

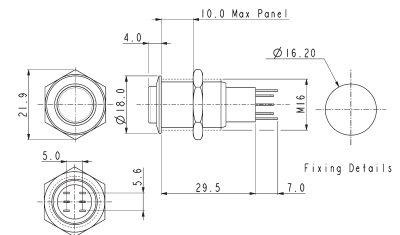


Prominent Button



MP0045/3D

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



Specifications

MP0045/1D0NN000/Sealing

MP0045/3D0NN000/Sealing

Terminations:

Solder tags

Solder tags

Switching:

D.P.C.O Momentary Action

D.P.C.O Momentary Action

Sealing:

IP67 IP40

IP67 IP40

Part No.

/S BLANK

/S BLANK

Max. Rating:

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

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

Contact Resistance:

50mΩ max. @ 1A, 2V

50mΩ max. @ 1A, 2V

Insulation Resistance:

>10³ MΩ @ 500Vdc

>10³ MΩ @ 500Vdc

Dielectric Strength:

> 2.0kVac

> 2.0kVac

Operating Temp. Range:

-20°C to +55°C

-20°C to +55°C

Operations

Mechanical:

200,000 (min)

200,000 (min)

Electrical:

30,000 (min)

30,000 (min)

Rear Nut Fixing Torque:

12Nm

12Nm

Materials

Mouldings:

Nylon

Nylon

Tags/Terminations:

Brass, Silver Plated

Brass, Silver Plated

Switch Body & Button:

Stainless Steel

Stainless Steel

Contacts:

Silver

Silver

Variants:

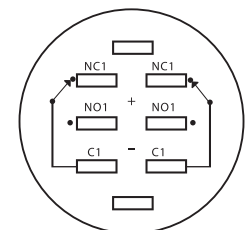
Nickel Plated Brass version available
Details on request

Nickel Plated Brass version available
Details on request

RoHS

Compliant

Compliant



Contact Layout

Soldering Instructions:

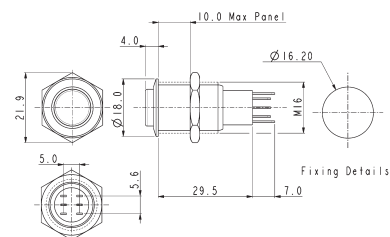
- Soldering time less than 3 seconds
- Do not push on the terminals
- Recommended cuspidal soldering iron. Temperature around 280°C

Low Profile



MP0045/1E

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

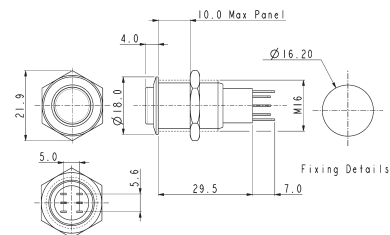


Prominent Button



MP0045/3E

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



Specifications

MP0045/1E0NN000/Sealing

MP0045/3E0NN000/Sealing

Terminations:

Solder Tags

Solder Tags

Switching:

D.P.C.O. - Latching Action

D.P.C.O. - Latching Action

Sealing:

IP67 IP40

IP67 IP40

Part No.

/S BLANK

/S BLANK

Max. Rating:

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

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

Contact Resistance:

50mΩ max. @ 1A, 2V

50mΩ max. @ 1A, 2V

Insulation Resistance:

>10³ MΩ @ 500Vdc

>10³ MΩ @ 500Vdc

Dielectric Strength:

>2.0kVac

>2.0kVac

Operating Temp. Range:

-20°C to +55°C

-20°C to +55°C

Operations

Mechanical:

200,000 (min)

200,000 (min)

Electrical:

30,000 (min)

30,000 (min)

Rear Nut Fixing Torque:

12Nm

12Nm

Materials

Mouldings:

Nylon

Nylon

Tags/Terminations:

Brass, Tin Plated

Brass, Tin Plated

Switch Body & Button:

Stainless Steel (Polished)

Stainless Steel (Polished)

Contacts:

Silver

Silver

Thread size:

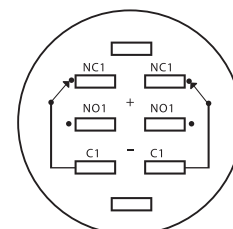
Nickel Plated Brass version
Details on request

Nickel Plated Brass version
Details on request

RoHS

Compliant

Compliant



Contact Layout

Soldering Instructions:

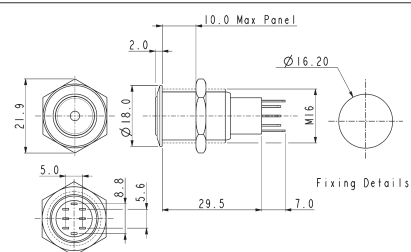
- Soldering time less than 3 seconds.
- Do not push on the terminals.
- Recommended cuspidal soldering iron. Temperature around 280°C.

Front Panel Mounting



MP0045/1D1

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

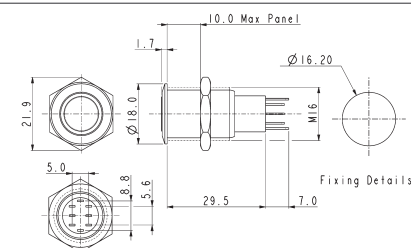


Front Panel Mounting



MP0045/1D2

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

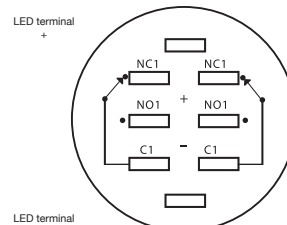


Specifications

MP0045/1D1/Colour/Voltage/Sealing

MP0045/1D2/Colour/Voltage/Sealing

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



Contact Layout

Soldering Instructions:

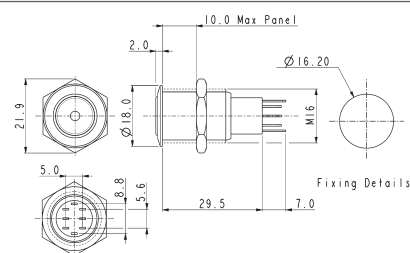
- Soldering time less than 3 seconds.
- Do not push on the terminals.
- Recommended cuspidal soldering iron. Temperature around 280°C.

Front Panel Mounting



MP0045/1E1

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

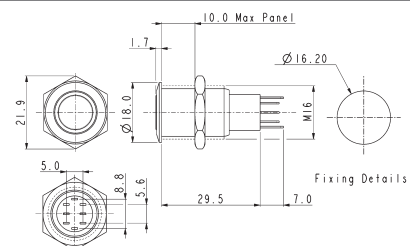


Front Panel Mounting



MP0045/1E2

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



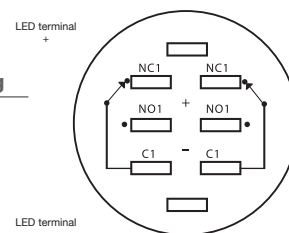
Specifications

MP0045/1E1/Colour/Voltage/Sealing

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

MP0045/1E2/Colour/Voltage/Sealing

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



Contact Layout

Soldering Instructions:

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

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



MAV0120

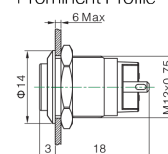


MAV0120/1

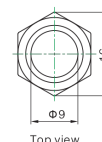
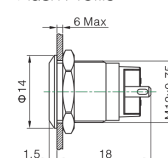
MAV0120/3

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

Prominent Profile

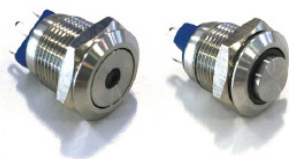


Flush Profile



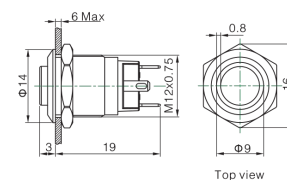
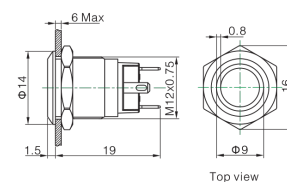
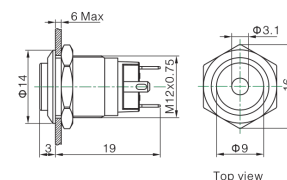
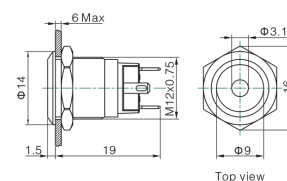
Specification	MAV0120/1	MAV0120/3
Terminations:	P - Solder Tabs	P - Solder Tabs
Switching:	S.P. Push to make	S.P. Push to make
Max Rating:	2A, 36Vdc	2A, 36Vdc
Contact Resistance:	≥50MΩ	≥50MΩ
Insulation Resistance:	≥1000MΩ	≥1000MΩ
Dielectric Strength:	1500V, AC 50Hz, 5 Secs	1500V, AC 50Hz, 5 Secs
Operating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

MAV0120



MAV0120

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

**Specification****MAV0120**

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

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

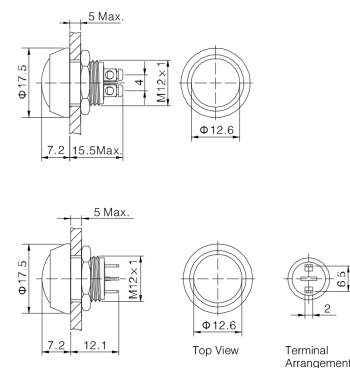


MMP0120



MMP0120

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



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

12mm Switches

Miniature Domed PBT Pushbutton

Non Illuminated - PBT

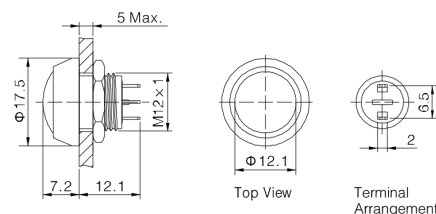
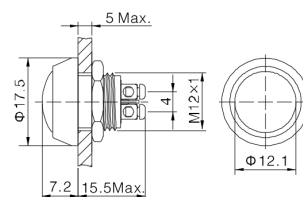


MMP0120/A



MMP0120/A

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



Specification

MMP0120/A

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

12mm Switches
Miniature Domed Illuminated Pushbutton
 Stainless Steel and PBT

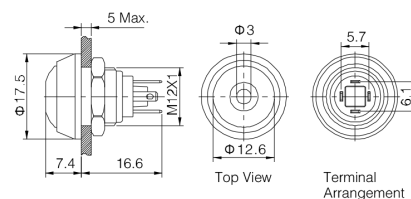


MMPI0120



MMPI0120

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



Specification

MMPI0120

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

12mm Miniature Vandal Resistant Stainless Steel Switch

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

Examples:

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

12mm Miniature Metal/Plastic Domed Pushbutton Switch

MMPXXX / X / X / X / X / X / X						
Series	Body Material	Button Material & Colour	Sealing	Illumination Colour	Lamp Voltage	Termination
MMP0120 = Non Illuminated MMPi0120 = Illuminated	S = Stainless Steel N = Nickel Plated Brass A = Black Anodized	SS = Stainless Steel NB = Nickel Plated Brass RD = RED PBT GN = GREEN PBT BL = BLUE PBT BK = BLACK PBT	Blank = IP65 67 = IP67 IP67 (non-illuminated only)	Blank = None RD = RED GN = GREEN BL = BLUE AM = AMBER/YELLOW OR = ORANGE	Blank = None 012 = 12V 024 = 24V Other voltages require external resistor	S = Screw Terminals P= Solder Terminals (2.0mm x 0.5mm)

Examples:

MMP0120/SSSS = 12mm, Non Illuminated, All Stainless Steel, IP65, Screw Terminals
 MMP0120/ARD67/S = 12mm, Non Illuminated, Black anodized body, Red PBT button, IP67, screw terminals
 MMPi0120/NNBRD012P = 12mm, Illuminated, All Nickel Plated Brass with 12V Red Dot illumination, IP65, Plug Terminals