

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 & IP68 front panel sealing which combined together to meet the ergonomic, electrical and environmental demands of switch panel design.

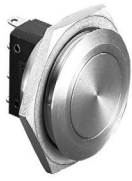
And where the ultimate strength of steel is not needed, there is a brass, chrome plated alternative. The low profile style switches are now also available with a latching, push on - push off, action.

The illuminated versions are available in dot and ring LED indication and a variety of illumination colours including bi-colour LED's. Newer versions also feature LED illumination driven by 6V, 12V & 24V together with rear of panel sealing, these options will add that extra dimension to control panel layouts and functionality.

| | |
|------------------------------|---------|
| Vandal Resistant Push Button | 144-162 |
| Voltage Selectors | 163-173 |
| Piezo | 174 |
| 12mm Switches | 175-180 |
| Rocker Switches | 181-186 |
| Toggle Switches | 187-213 |
| Refrigerator Switches | 214-218 |
| Slide Switches | 219-224 |
| | 225-229 |

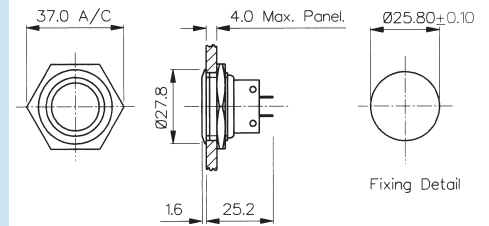


Front Panel Mounting



MP0027

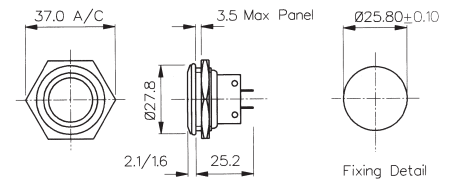
- 28mm diameter
- S.P.C.O. Microswitch
- 5A, 250Vac



Front Panel Mounting

MP0038
Sealed to IP66

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



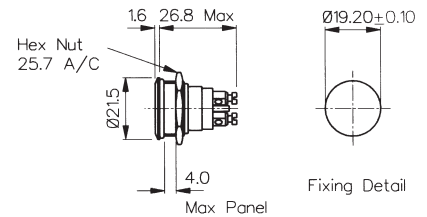
| Specifications | MP0027 | MP0038 |
|-----------------------------------|---|---|
| Terminations: | Solder Tags | Solder Tags |
| Switching: | S.P.C.O. Momentary Action (Microswitch) | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 5A, 250Vac 2A, 28Vdc | 5A, 250Vac 2A, 28Vdc |
| Contact 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

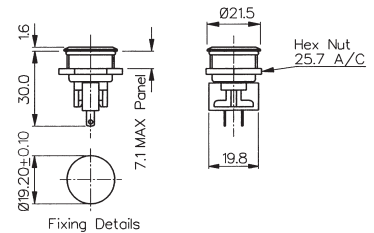


Front Panel Mounting



MP0031
Sealed to IP66

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



Specifications

MP0037

MP0031

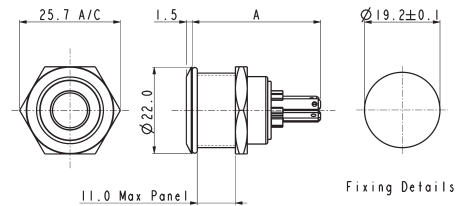
| | | |
|--------------------------------------|---|---|
| Terminations: | Screw Terminals | Solder Tags |
| Switching: | S.P. Push to make Momentary action | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 1A, 50Vac/dc | 5A, 250Vac 2A, 28Vdc |
| Contact Resistance: | <10mΩ | <10mΩ |
| Insulation 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: | 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, 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 pole 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.

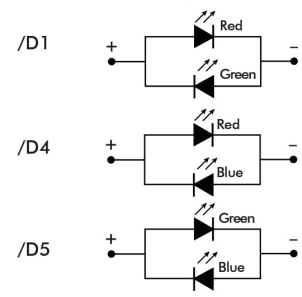
Specifications

MPI001/Termination/Colour/Voltage

| | | | | | | | | |
|--------------------------------|--|---------|--------|---------|--------|-----------------|----------------|-----------------|
| Illumination style: | Dot | | | | | | | |
| Terminations: | /28 (2.8mm tabs), /TERM or /TE (screw terminals) | | | | | | | |
| Switching: | Single pole, 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 | | | | | | | |

ESD Handling precautions must be taken
 Compliant

Dual Colour LED Configuration

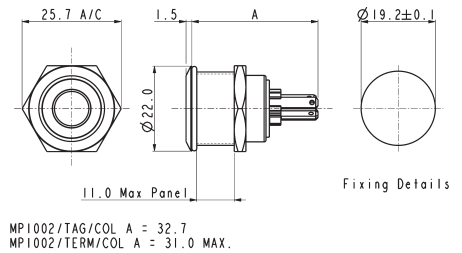


Front Panel Mounting



MPI002- front panel seal to IP66

- Ring illumination
- 22mm diameter
- Single pole 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 pole, 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 | |
| Mechanical: | 750,000 (min) |
| Electrical: | 35,000 (min) |

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

| | |
|-----------------------|-----------|
| Screw Terminal Torque | 0.2Nm Max |
|-----------------------|-----------|

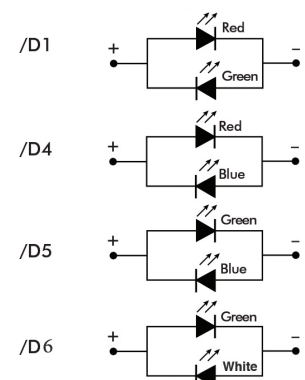
Materials

| | |
|-----------------------|---------------------------------|
| 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 |

ESD Handling precautions must be taken
Compliant



Dual Colour LED Configuration



Stainless Steel Illuminated Vandal Resistant

Rear of panel IP66 seal

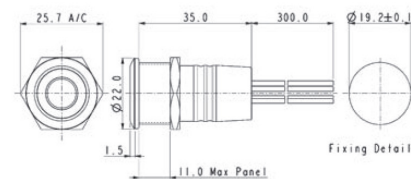


Rear Panel Sealed - Flying Leads



MPI002/FL/xx/x

- Ring illumination
- 22mm diameter
- Single pole 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



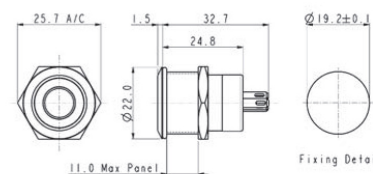
Flying lead colours: LED: red + and black - Switch contacts: white.

Rear Panel Sealed - Solder Tags



MPI001/RP/xx/x

- Dot or ring illumination
- 22mm diameter
- Single pole 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: Terminations: Switching: Max. Switch Rating: LEDs (ratings @ 20mA) Part No. Colours Luminous Intensity Forward Voltage Forward Current Moulding Colour | Dot /FL (Flying leads) /RP (Solder tags) Single pole, push to make, tactile (momentary action) 50mA, 24Vdc /RD /GN /AM /BL /WH Red Green Amber Blue White 900mcd 2500mcd 900mcd 1500mcd 900mcd 1.85V 3.5V 2.3V 3.5V 3.6V 20mA 20mA 20mA 20mA 20mA Red Green Amber Blue White | Ring /FL (Flying leads) /RP (Solder tags) Single pole, push to make, tactile (momentary action) 50mA, 24Vdc /RD /GN /AM /BL /WH Red Green Amber Blue White 900mcd 2500mcd 900mcd 1500mcd 900mcd 1.85V 3.5V 2.3V 3.5V 3.6V 20mA 20mA 20mA 20mA 20mA Red Green Amber Blue White |
| Illumination Voltage: Contact Resistance: Insulation Resistance: Dielectric Strength: Operating Temp. Range: Sealing (Front of panel only): Operations Mechanical: Electrical: Operating Pressure: Rear Nut Fixing Torque: Materials Switch assembly: Tags: Terminals: Switch Body & Button: Lens and Lens Body: O ring: Internal seal: Contact Plate: Thread size: | /no suffix No resistor fitted. An appropriate resistor must be series connected by the user. Voltages as above. /6 6Vdc /12 12Vdc /24 24Vdc <100mΩ >10 ³ MΩ Contact to Panel >2.0kV Contact to Contact 1500 -30°C to +70°C Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed) 750,000 (min) 35,000 (min) 12N 0.57Nm UL94V-0 rated Polyamide (Nylon) Copper Alloy Copper Alloy Stainless Steel Polycarbonate Nitrile Silicone Gold Plated 18.97mm x 26TPI ESD Handling precautions must be taken Compliant | /no suffix No resistor fitted. An appropriate resistor must be series connected by the user. Voltages as above. /6 6Vdc /12 12Vdc /24 24Vdc <100mΩ >10 ³ MΩ Contact to Panel >2.0kV Contact to Contact 1500 -30°C to +70°C Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed) 750,000 (min) 35,000 (min) 12N 0.57Nm UL94V-0 rated Polyamide (Nylon) Copper Alloy Copper Alloy Stainless Steel Polycarbonate Nitrile Silicone Gold Plated 18.97mm x 26TPI ESD Handling precautions must be taken Compliant |

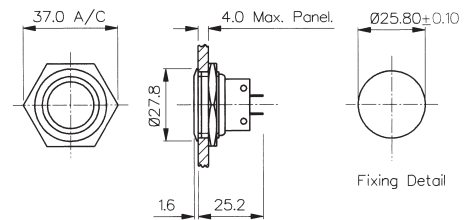


Front Panel Mounting



MPB038
Sealed to IP66

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

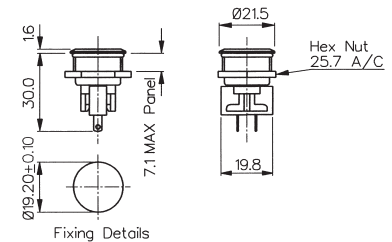


Front Panel Mounting

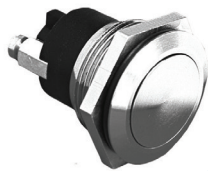


MPB031
Sealed to IP66

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

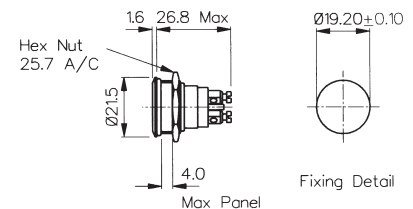


Front Panel Mounting



MPB037
Sealed to IP68

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



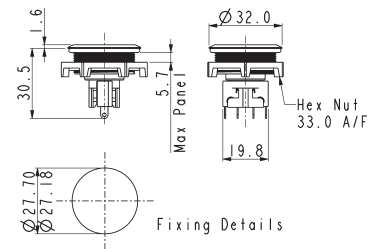
| Specifications | MPB038 | MPB031 | MPB037 |
|--------------------------------|---|---|---|
| Terminations: | Solder Tags | Solder Tags | Screw Terminals |
| Switching: | S.P.C.O. Momentary Action (Microswitch) | S.P.C.O. Momentary Action (Microswitch) | S.P. Push to make Momentary action |
| Max. Rating: | 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

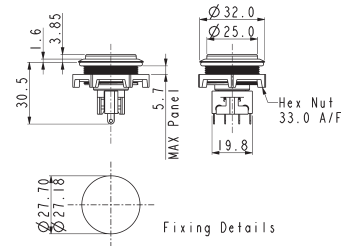


Front Panel Mounting - Protruding Profile



MP0050/2

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



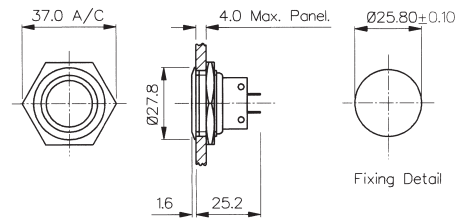
| Specifications | MP0050 | MP0050/2 |
|-----------------------------------|---|---|
| Terminations: | Solder Tags | Solder Tags |
| Switching: | S.P.C.O. Momentary Action (Microswitch) | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 5A, 250Vac. 2A, 28Vdc | 5A, 250Vac. 2A, 28Vdc |
| Contact 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

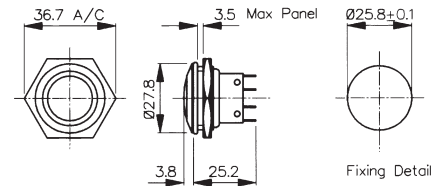
- 28mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250Vac



Front Panel Mounting

MP0038/3
Sealed to IP66

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



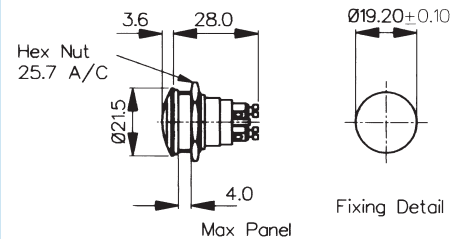
| Specifications | MP0027/3 | MP0038/3 |
|-----------------------------------|---|---|
| Terminations: | Solder Tags | Solder Tags |
| Switching: | S.P.C.O. Momentary Action (Microswitch) | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 5A, 250Vac. 2A, 28Vdc | 5A, 250Vac. 2A, 28Vdc |
| Contact Resistance: | <10mΩ | <10mΩ |
| Insulation Resistance: | >10 ⁹ MΩ | >10 ⁹ 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

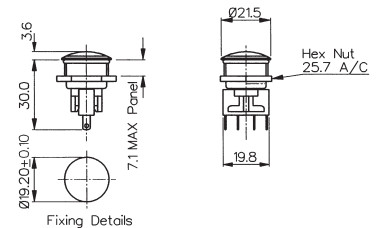


Front Panel Mounting



MP0031/3
Sealed to IP66

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



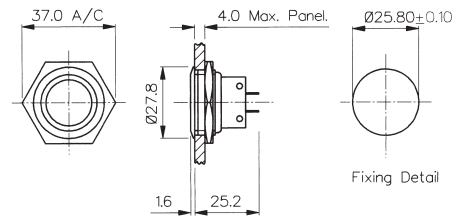
| Specifications | MP0037/3 | MP0031/3 |
|-----------------------------------|---|---|
| Terminations: | Screw Terminals | Solder Tags |
| Switching: | S.P. Push to make Momentary action | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 1A, 50Vac/dc | 5A, 250Vac. 2A, 28Vdc |
| Contact Resistance: | <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

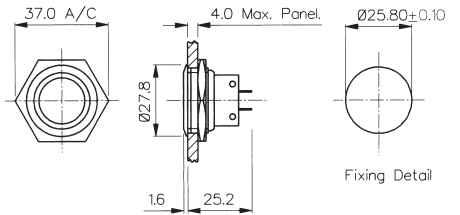
- 28mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250Vac



Front Panel Mounting

MP0038/2
Sealed to IP66

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



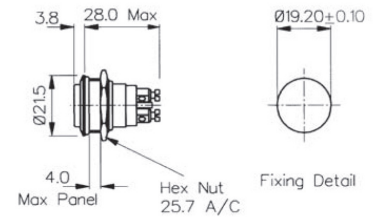
| Specifications | MP0027/2 | MP0038/2 |
|-----------------------------------|---|---|
| Terminations: | Solder Tags | Solder Tags |
| Switching: | S.P.C.O. Momentary Action (Microswitch) | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 5A, 250Vac 2A, 28Vdc | 5A, 250Vac. 2A, 28Vdc |
| Contact 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

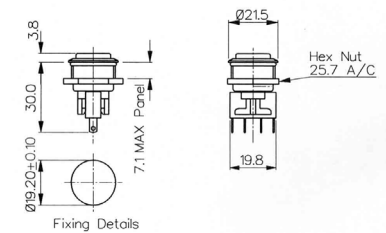


Front Panel Mounting



MP0031/2
Sealed to IP66

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



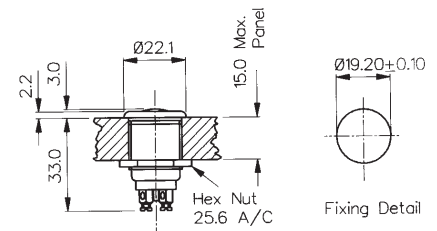
| Specifications | MP0037/2 | MP0031/2 |
|-----------------------------------|---|---|
| Terminations: | Screw Terminals | Solder Tags |
| Switching: | S.P. Push to make Slow momentary action | S.P.C.O. Momentary Action (Microswitch) |
| Max. Rating: | 1A, 50Vac/dc | 5A, 250Vac. 2A, 28Vdc |
| Contact 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

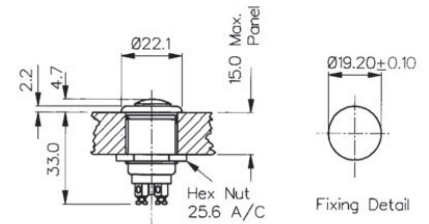


Front Panel Mounting



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



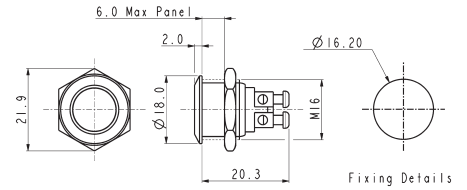
| Specifications | MP0013, MP0033 | MP0013/2, MP0033/2 |
|-----------------------------------|--|--|
| Terminations: | Screw Terminals | Screw Terminals |
| Switching: | S.P. Push to make Slow momentary action | S.P. Push to make Slow momentary action |
| Max. Rating: | 1A, 50Vac/dc | 1A, 50Vac/dc |
| 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 | 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 |
| 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, 48Vdc

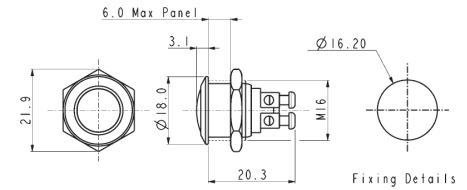


Domed Profile



MP0042/2

- 18mm bezel diameter
- 16mm panel hole
- S.P. Push to make
- Polished finish
- 2A, 48Vdc

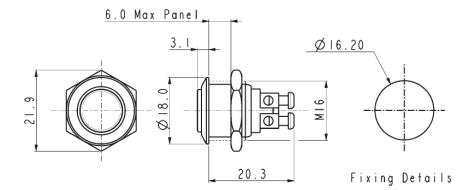


Prominent Button



MP0042/3

- 18mm bezel diameter
- 16mm panel hole
- S.P. Push to make
- Polished finish
- 2A, 48Vdc



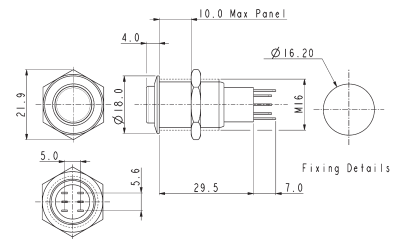
| Specifications | MP0042/1 | MP0042/2 | MP0042/3 |
|-------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Terminations: | Screw Terminals | Screw Terminals | Screw Terminals |
| Switching: | S.P. Push to make | S.P. Push to make | S.P. Push to make |
| Max. Rating: | 2A, 48Vdc | 2A, 48Vdc | 2A, 48Vdc |
| 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
- 250V ac

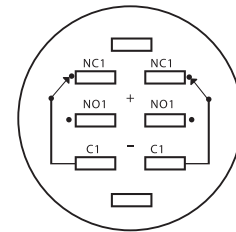
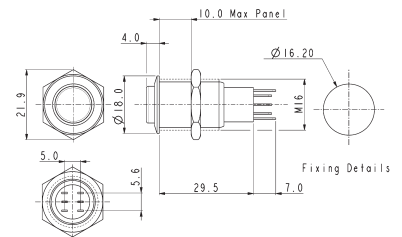


Prominent Button



MP0045/3D

- 18mm bezel diameter
- 16mm fixing hole diameter
- D.P.C.O
- 250V ac



Contact Layout

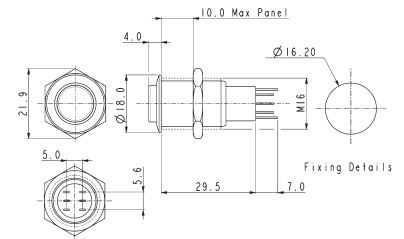
| Specifications | MP0045/1D0NN000 | MP0045/3D0NN000 |
|-------------------------|---|---|
| Terminations: | Solder tags | Solder tags |
| Switching: | D.P.C.O Momentary Action | D.P.C.O Momentary Action |
| Max. Rating: | 250V ac | 250V ac |
| Contact Resistance: | 50mΩ max. @ 1A, 2V | 50mΩ max. @ 1A, 2V |
| Insulation Resistance: | >10 ³ MΩ @ 500Vdc | >10 ³ 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 |

Low Profile



MP0045/1E

- 18mm bezel diameter
- 16mm fixing hole diameter
- D.P.C.O.
- 250V ac

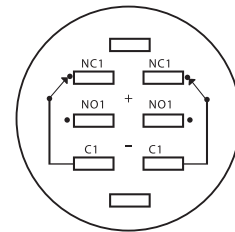
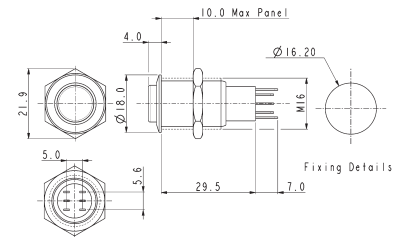


Prominent Button



MP0045/3E

- 18mm bezel diameter
- 16mm fixing hole diameter
- D.P.C.O.
- 250V ac



Contact Layout

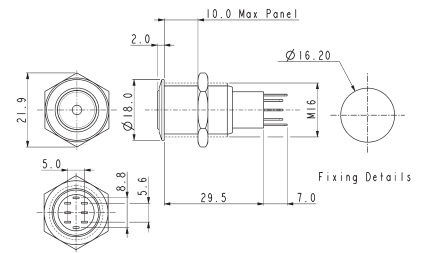
| Specifications | MP0045/1E0NN000 | MP0045/3E0NN000 |
|-------------------------|---|---|
| Terminations: | Solder Tags | Solder Tags |
| Switching: | D.P.C.O. - Latching Action | D.P.C.O. - Latching Action |
| Max. Rating: | 250V ac | 250V ac |
| Contact Resistance: | 50mΩ max. @ 1A, 2V | 50mΩ max. @ 1A, 2V |
| Insulation Resistance: | >10 ³ MΩ @ 500Vdc | >10 ³ 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 |

Front Panel Mounting



MP0045/1D1

- Dot Illuminated
- 18mm bezel diameter
- D.P.C.O.
- 3A, 250V ac
- Red, Green, Amber or Blue Illumination
- Separate LED Terminals

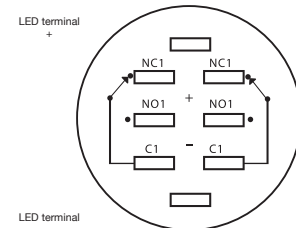
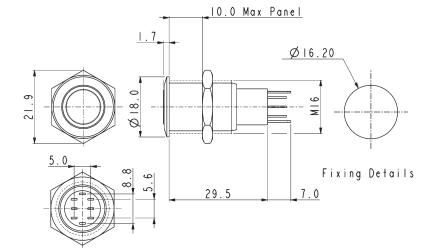


Front Panel Mounting



MP0045/1D2

- Ring Illuminated
- 18mm bezel diameter
- D.P.C.O.
- 3A, 250V ac
- Red, Green, Amber or Blue Illumination
- Separate LED Terminals



Contact Layout

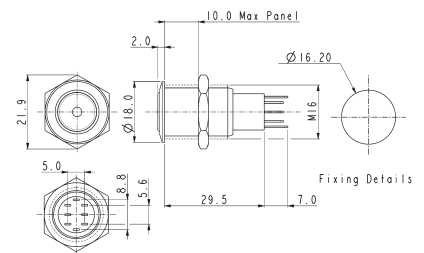
| Specifications | MP0045/1D1/Colour/Voltage | MP0045/1D2/Colour/Voltage |
|-------------------------|--------------------------------------|--------------------------------------|
| Terminations: | Solder Tags | Solder Tags |
| Illumination: | Dot | Ring |
| Switching: | D.P.C.O. Momentary Action | D.P.C.O. Momentary Action |
| Max. Switch Rating: | 3A, 250Vac | 3A, 250Vac |
| 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 |

Front Panel Mounting



MP0045/1E1

- Dot Illuminated
- 18mm bezel diameter
- D.P.C.O.
- 3A, 250V ac
- Red, Green, Amber or Blue Illumination
- Separate LED Terminals

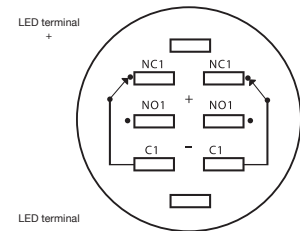
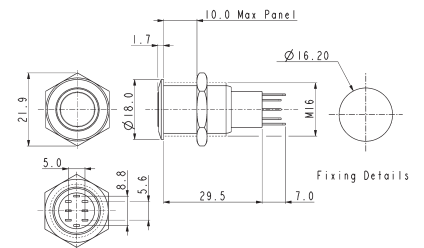


Front Panel Mounting



MP0045/1E2

- Ring Illuminated
- 18mm bezel diameter
- D.P.C.O.
- 3A, 250V ac
- Red, Green, Amber or Blue Illumination
- Separate LED Terminals



Contact Layout

| Specifications | MP0045/1E1/Colour/Voltage | MP0045/1E2/Colour/Voltage |
|-------------------------|--------------------------------------|--------------------------------------|
| Terminations: | Solder Tags | Solder Tags |
| Illumination: | Dot | Ring |
| Switching: | D.P.C.O. Momentary Action | D.P.C.O. Momentary Action |
| Max. Switch Rating: | 3A, 250Vac | 3A, 250Vac |
| 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 |

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.

- 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.



Switches 8300 Vandal Resistant Switches

Designed to IP66



H8300RP - - -

Key Features

- Momentary or latching action
- Ratings up to 12(12) @ 250Vac
- Single and double pole
- 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

16(4)A 250Vac T85, 1E4 (10,000 Operations)
 12(12)A 250Vac T105, 1E4 (10,000 Operations)
 8(8)A 250Vac T105, 5E4 (50,000 Operations)
 6(6)A 250Vac T125, 5E4 (50,000 Operations)

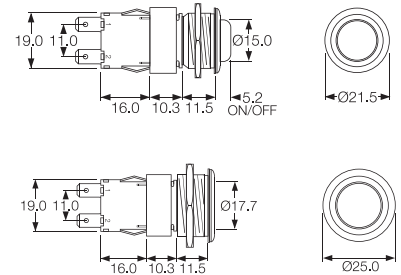
12A 250Vac DP, 13A 250Vac SP
 250Vac 1hp, 125Vac 1/2hp
 UL 85°C, file E45221, CSA file LR10990

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

3mm contact gap.
Technical data on pages 4 & 5 (switches),
6 (indicators).

Dimensions

8300RP (H terminals shown)



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



C0911VA - - -

Key Features

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

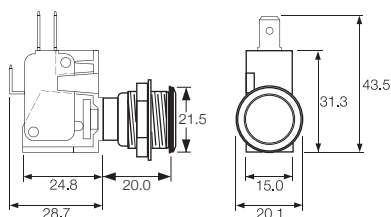
Approvals and specifications

- ⚡ 16(4)A 250Vac 5E4 T85
- UL 16A 125/250Vac 3/4hp T85 50E3
 125V 1/2 HP, 250V 3/4 HP, 0.4A 125Vdc, 0.2A 250Vdc

Approvals apply to switch mechanism only.
 μ contact gap.

Dimensions

C0911VA



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

Bulgin's broad line of pushbutton switches are available in various sizes and configurations. This includes a variety of illumination and terminal options as well as several with high inductive power ratings suitable for motor driven applications. These switches can be found in many markets including home appliances, commercial, medical, audio and security.

- Miniature, round and rectangular push button switches available
- Ratings up to 16A, 250V ac
12(12)A 250V ac rating also available
- Latching and momentary actions
- Choice of actuators
(custom option also available)
- Square and Round Mounting Styles

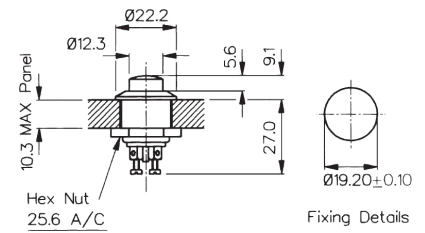


Front Panel Mounting



MP0012/Col

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

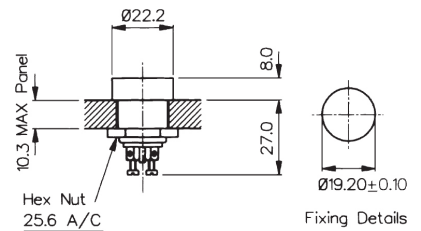


Front Panel Mounting



MP0012/1/Col

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

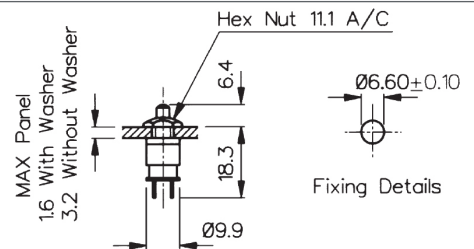


Rear Panel Mounting



MP0016

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



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

8300 Series Push Button

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



Key Features

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

Approvals and specifications

16(4)A 250Vac T85, 1E4 (10,000 Operations)
 12(12)A 250Vac T105, 1E4 (10,000 Operations)
 8(8)A 250Vac T105, 5E4 (50,000 Operations)
 6(6)A 250Vac T125, 5E4 (50,000 Operations)

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

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

UL 85°C, file E45221, CSA file LR10990

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

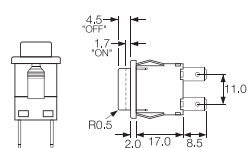
BioCote antimicrobial additive. Independently verified to ISO22196:2007.

3mm contact gap.

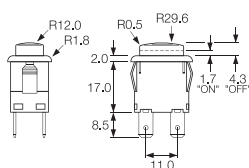
| Terminal | Function | Actuator | Body Code | Body Colour | | | | | | | | |
|-----------------|--|--|---|---------------------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|---------------------------|
| <p>C</p> | <p> Approvals & ratings vary with function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

Dimensions

Actuator A
Body B



Actuator J
Body E



Examples



H8350AB ---
T8350AB ---




H8353JE ---
T8353JE ---



H8353EB ---
T8353EB ---

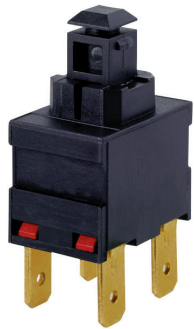


H8353CB ---
T8353CB ---

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

8200 Series Push Button

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



Key Features

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

Approvals and specifications

- ⚡ 16(4)A 250Vac T85, 1E4 (10,000 Operations)
- 12(12)A 250Vac T105, 1E4 (10,000 Operations)
- 8(8)A 250Vac T105, 5E4 (50,000 Operations)
- 6(6)A 250Vac T125, 5E4 (50,000 Operations)

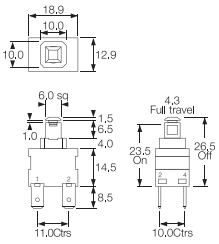
12A 250Vac
250Vac 1hp, 125Vac 1/2hp
UL 85°C, file E45221, CSA file LR10990

3mm contact gap.

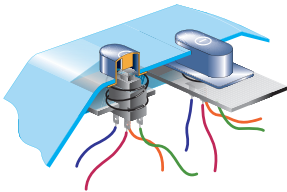
| Terminal | Function | Actuator | Body Code |
|---|---|--|--|
| <p>C</p> <p>6.3 x 0.8 10.1</p> | <p>1 2 3 4</p> <p>Approvals & ratings vary with function Single pole switches use terminals 1 & 2 (& 3)</p> <p>8200 Single Pole ON - OFF</p> | <p>A</p> <p>Standard actuator for snap-on custom adaptors</p> <p>8.0</p> | <p>A</p> <p>Standard body</p> |
| <p>H</p> <p>4.8 x 0.8 8.5</p> <p>A</p> <p>7.6</p> <p>As "H" but right angle 4.8 x 0.8</p> | <p>8201 Single Pole ON - OFF (momentary ON)</p> | <p>B</p> <p>Flat top actuator</p> <p>5.5</p> | <p>See dimensioned drawings for details</p> |
| <p>K</p> <p>2.8 x 0.8 8.5 2.6 1.5</p> | <p>8250 Double Pole ON - OFF</p> | <p>C</p> <p>Curved top actuator</p> <p>8.0</p> <p>Examples of possible actuation methods</p> <p>Using a Snap on adaptor</p> | <p>C</p> <p>As standard body but with side support peg for use with M PCB terminals</p> <p>X and V PCB terminals. Additional dummy terminals may be supplied for extra support.</p> |
| <p>T</p> <p>2.6 1.5 7.0</p> <p>Solder</p> <p>V</p> <p>3.7 Ctrs 4.3</p> <p>Dual pin PCB (Call sales for mounting dims)</p> | <p>8251 Double Pole ON - OFF (momentary ON)</p> | <p>Using a Hinged Actuator</p> | |
| <p>X</p> <p>PCB 0.8 Sq 7.0 4.5</p> | | | |

Dimensions

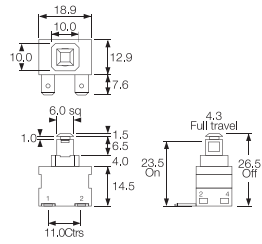
'A' body with 'H' 4.8 terminals



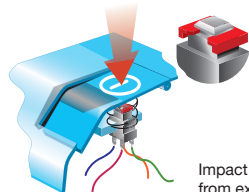
Example of possible mounting styles



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

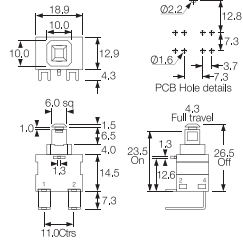


Alternative Actuator



Impact washer resists damage from excessive operator force

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



Examples



C8250AA --- with impact washer M1226



X8201AA ---



K8200AA ---



A8200AA ---



M8200AC ---



Example of M8200AC

7000 Series Push Button

16A 250Vac




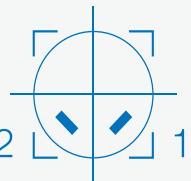

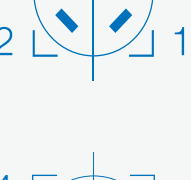
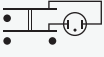
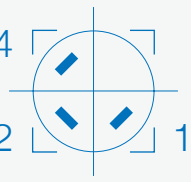
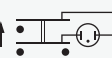
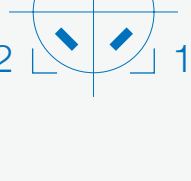

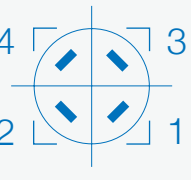

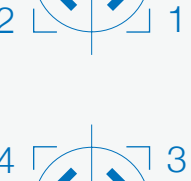
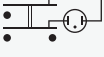
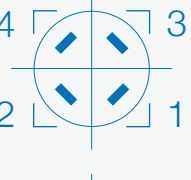
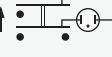
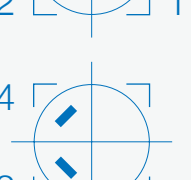

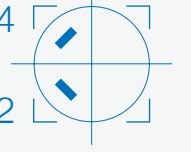
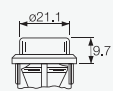

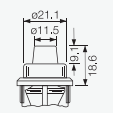
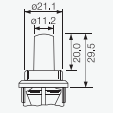
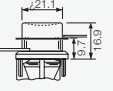


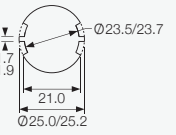
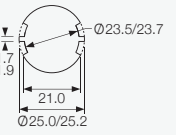
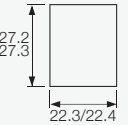


Key Features

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

Approvals and specifications

- CE 16(4)A 250Vac T125
8(8)A 250Vac T85
- UL CSA 16A Non Ind, 250Vac 1hp, 125Vac 1/2hp
UL 65°C, file no. E45221, CSA file no. LR10990
3mm contact gap.

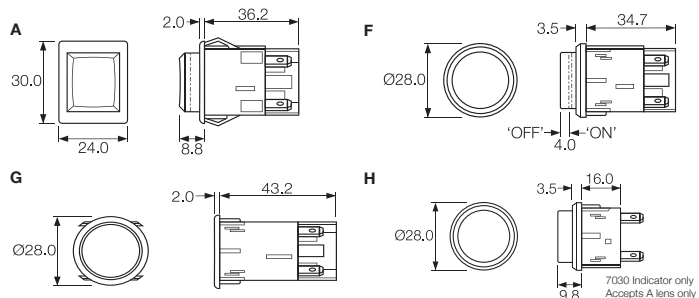
| Terminal | Function | Actuator | Body Code |
|--|--|---|---|
| <p>C</p>  <p>6.3 x 0.8</p> <p>H</p>  <p>4.8 x 0.8</p> | <p>1 2 3 4 Approvals & ratings vary with function Single pole switches use terminals 1 & 2 (& 3)</p> <p>7000 Single Pole ON - OFF</p>   <p>7001 Single Pole (momentary) ON - OFF</p>   <p>7003 Single Pole (with light) ON - OFF</p>   <p>7004 Single Pole (momentary) with light ON - OFF</p>   <p>7050 Double Pole ON - OFF</p>   <p>7051 Double Pole with light ON - OFF</p>   <p>7053 Double pole with light ON - OFF</p>   <p>7054 Double pole (momentary ON) with light ON - OFF</p>   <p>7030 Indicator UL E63363 CSA LR29381</p>   | <p>A Round actuator shown in F body</p>  <p>A Round actuator shown in G body</p>  <p>B Round actuator - medium shown in F body</p>  <p>C Round actuator - long shown in F body</p>  <p>D Round actuator - sub panel mount</p>  <p>S Rectangular actuator Shown in "A" body N/A for 7030</p>  | <p>Panel cut-outs</p> <p>F H G</p> <p>Body types fit either cut-out</p>  <p>25.0/25.2</p>  <p>21.0</p>  <p>Ø23.5/23.7</p> <p>A</p>  <p>27.2 27.3 22.3/22.4</p> <p>Cut-outs must be punched in the direction of insertion</p> |

Dimensions

Panel thickness:

A - 0.8 - 2.5mm

F, G, H - 0.8 - 5.0mm



Examples



C7000AF ---



C7003AF ---



C7050SA ---



C7053AG ---

| Body Colour | Actuator Colour | Lamp Voltage | Legend | Legend Colour | Options |
|-------------------|-------------------|-----------------------------|--------|---------------|---|
| B Black | A Amber | — None | | | <p>Finish Matt finish is standard on bodies. Gloss finish is standard on actuators.</p> <p>Colour Call sales for custom colours. A full range is available for large orders.</p> <p>Legend printing A wide range is available or call sales for custom legends.</p> <p>Lamp voltage Call sales for details of available voltages.</p> <p>Weatherproof housing (E) Additional housing which fits round body switches with an oversize housing with a clear silicone cover designed to IP65. Mounting hole dia: 38.0mm</p> |
| W White | C Clear | 2 125V Neon | | | |
| | G Green | 3 250V Neon | | | |
| | R Red | 7 12V Filament | | | |
| | | 8 24V Filament | | | |
| | B Black | | | | |
| | R Red | | | | |
| | W White | | | | |
| | | | | | |
| | | | | | |

0911 Push Button Switches

0.5A 250Vac



Key Features

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

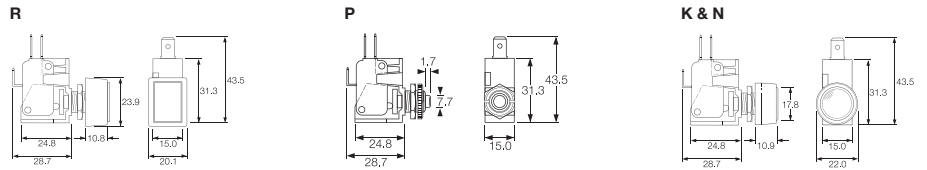
Approvals and specifications

16(4)A 250Vac 5E4 T85

16A 125/250Vac 3/4hp T85 50E3
125V 1/2 HP, 250V 3/4 HP, 0.4A 125Vdc, 0.2A 250Vdc

Approvals apply to switch mechanism only.
μ contact gap.

Dimensions



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

0916 - 0920 Push Button Switches

0.5A 250Vac



Key Features

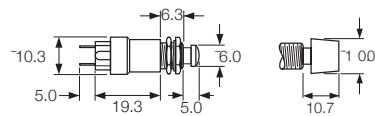
- Self wiping contacts
- Slow make & break
- Momentary action
- Choice of switch circuits
- Choice of actuators

Approvals and specifications

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

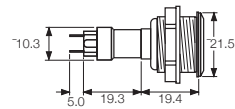
Dimensions

Dimensions (mm) Nylon S and L actuators



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

Stainless steel V actuator (IP66)



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

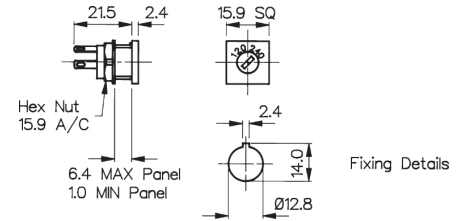
| Terminal | Function | Actuator | Body Code | Options |
|-----------------|--|---|--|---|
| <p>T</p> | <p>0916</p> <p>Black base SP ON - OFF (momentary)</p> | <p>S Small Actuator</p> | <p>7.1</p> | <p>Finish</p> <p>Gloss finish for L and S actuators.</p> |
| | <p>0917 50V only</p> <p>Brown base SP ON - OFF (momentary 1 side)</p> | <p>L Large Actuator</p> | <p>Panel Cut-out (L & S Actuators)</p> <p>Panel thickness Both nuts - 2.5mm No Backnut - 4.0</p> | <p>Colour</p> <p>Call sales for custom colours. A full range is available for large orders.</p> |
| | <p>0918</p> <p>White base SP ON - OFF (momentary OFF)</p> | <p>V Vandal Resistant IP66 Flattop Stainless Steel</p> | <p>19.2</p> | <p>Panel Cut-out (Stainless Steel V Actuator) Panel thickness - 8.0mm</p> |
| | <p>0919</p> <p>Black base DP ON - OFF (momentary 1 side)</p> | | | |
| | <p>0920</p> <p>White base DP ON - OFF (momentary ON)</p> | | | |

120/140V Voltage Selector



VS0001

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

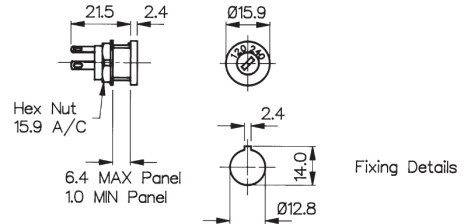


120/140V Voltage Selector

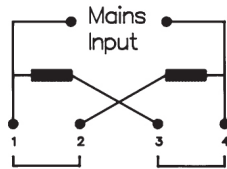


VS0002

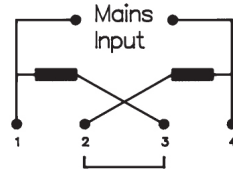
- 2.8 series tabs/Solder tags
- Round Front Bezel
- 6.3A
- CSA & VDE approvals



Connection Parallel 120V



Connection Series 240V



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

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



Piezo Switches
16mm Stainless Steel

Non Illuminated

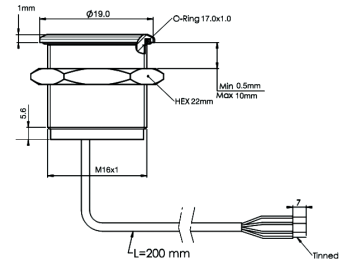


16MM Stainless Steel Non Illuminated



MPZ016

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



Specification

MPZ016

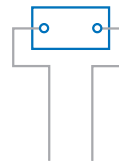
| | |
|----------------------------------|---|
| Type | Momentary |
| Material | Stainless Steel (Aluminium upon request) |
| Maximum Voltage | 24V AC/DC |
| Switch Resistance "ON" | <1Ω |
| Switch Resistance "OFF" | 5MΩ |
| Capacitance | 100pF |
| Switching current (momentary) | 1A Max |
| Switching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

Environmental Specification

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

Circuit Specification

16MM Stainless Steel Non Illuminated



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

Piezo Switches
19mm Stainless Steel

Illuminated and Non Illuminated

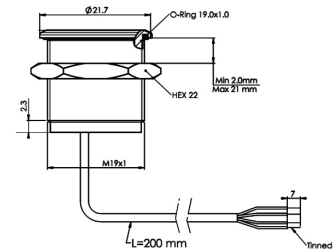


19MM Stainless Steel Illuminated



MPZI019

- Blue Illumination
- 20 cm lead
- Flathead

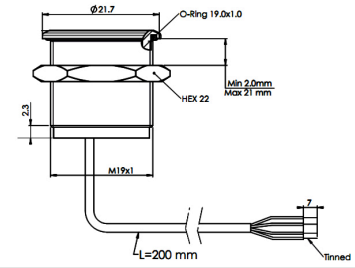


19MM Stainless Steel Non Illuminated



MPZ019

- Non Illumination
- 20 cm lead
- Flathead



Specification

MPZ019, MPZI019

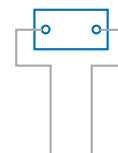
| | |
|----------------------------------|---|
| Type | Momentary |
| Material | Stainless Steel (Aluminium upon request) |
| Maximum Voltage | 24V AC/DC |
| Switch Resistance "ON" | <1Ω |
| Switch Resistance "OFF" | 5MΩ |
| Capacitance | 100pF |
| Switching current (momentary) | 1A Max |
| Switching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

Environmental Specification

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

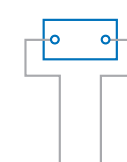
Circuit Specification

19MM Stainless Steel Non Illuminated



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

19MM Stainless Steel Illuminated



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

Piezo Switches 22mm Stainless Steel

Illuminated and Non Illuminated

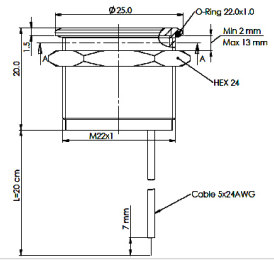


22MM Stainless Steel Non Illuminated



MPZ022

- Non Illumination
- 20 cm lead
- Flathead

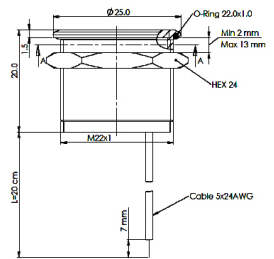


22MM Stainless Steel Illuminated



○ ○
MPZI022

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

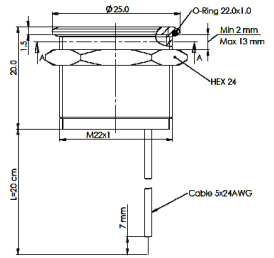


22MM Stainless Steel Illuminated



○ ○
MPZI022

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



Specification

MPZ022, MPZI022

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

Environmental Specification

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

Circuit Specification

22MM Stainless Steel Non Illuminated



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

22MM Stainless Steel Illuminated 1 colour



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

22MM Stainless Steel Illuminated 2 colour



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

Part No System

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

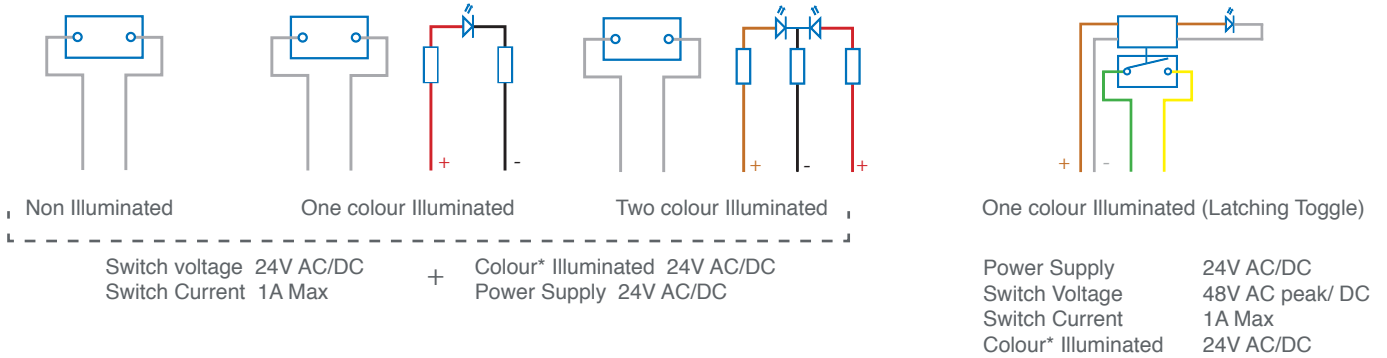
Examples:

MPZ022/F = Non Illuminated Piezo, 22mm, Flathead

MPZI022/F/RD/24 = Illuminated Piezo, 22mm, Flathead, Red Illumination, 24 volt

MPZI022/G/BL/24/L = Illuminated Piezo, 22mm, Guided Profile, Blue Illumination, 24 volt, Latching Toggle

Circuit Specifications



Other switches are available upon request*

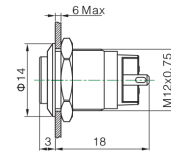
MAV0120



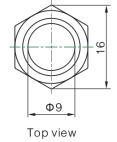
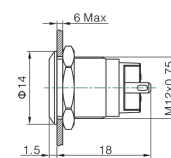
MAV0120

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

Prominent Profile



Flush Profile



Specification

MAV0120/3

MAV0120/1

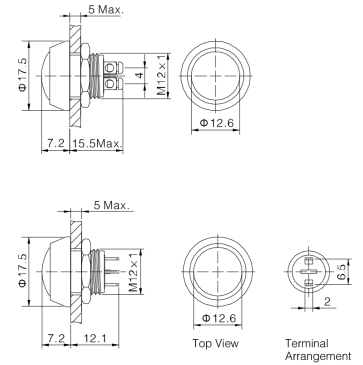
| | | |
|-------------------------------|------------------------|------------------------|
| Terminations: | P - Solder Tabs | P - Solder Tabs |
| Switching: | S.P. Push to make | S.P. Push to make |
| Max Rating: | 2A, 36Vdc | 2A, 36Vdc |
| Contact Resistance: | ≥50MΩ | ≥50MΩ |
| Insulation Resistance: | ≥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: | Copper, Gold Plated | Copper, Gold Plated |
| Switch Body & Button: | Stainless Steel | Stainless Steel |
| Contacts: | Silver Alloy | Silver Alloy |
| Thread size: | M12x0.75 | M12x0.75 |
| RoHS | Compliant | Compliant |

MMP0120



MMP0120

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



Specification

MMP0120/S

MMP0120/N

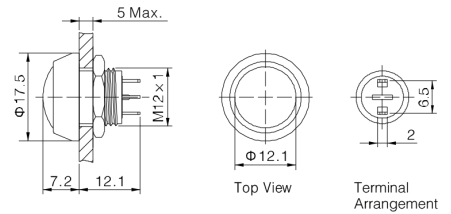
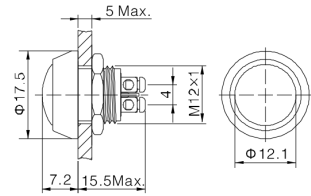
| | | |
|-------------------------------|---------------------------------------|---------------------------------------|
| Terminations: | P - Solder Tabs S - Screw Terminal | P - Solder Tabs S - Screw Terminal |
| Switching: | S.P. Push to make | S.P. Push to make |
| Max Rating: | 2A, 36Vdc | 2A, 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, Silver Plated | Brass, Silver Plated |
| Switch Body & Button: | /SS Stainless Steel | /N - Nickel Plated Brass |
| Contacts: | Silver Alloy | Silver Alloy |
| Thread size: | M12x1 | M12x1 |
| RoHS | Compliant | Compliant |

MMP0120/A



MMP0120/A

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



Specification

MMP0120/A

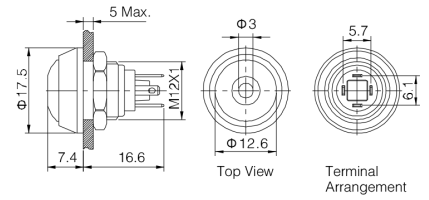
| | |
|-------------------------------|--|
| Terminations: | P - Solder Tabs S - Screw Terminal |
| Switching: | S.P. Push to make |
| Max Rating: | 2A, 36Vdc |
| Contact Resistance: | ≥50MΩ |
| Insulation Resistance: | ≥1000MΩ |
| Dielectric Strength: | 1500V, AC 50Hz, 5 Secs |
| Operating Temp Range: | *-25°C ~ +55°C |
| Operations | |
| Mechanical: | 1,000,000 (min) |
| Electrical: | 200,000 (min) |
| Sealing (Front of Panel Only) | IP65 or IP67 |
| Shock Resistance | IK08 |
| Rear Nut Fixing Torque: | 0.3Nm |
| Materials | |
| Mouldings: | PBT |
| Tags/Terminations: | Brass, Silver 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 |

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:
Max Rating:

S.P. Push to make
2A, 36Vdc

LED Ratings

Part No.
Colours
Luminous Intensity
Forward Voltage
Forward Current
Moulding Current

| 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 | 15mA | 15mA | 15mA | 15mA | 15mA |
| Moulding Current | | | | | |

Illumination Voltage

/no suffix - No resistor fitted. An Appropriate resistor must be series connected by the user.
Voltages as above

/12

Contact Resistance:
Insulation Resistance:
Dielectric Strength:
Operating Temp. Range:

≥50MΩ
≥1000MΩ
1500V, AC 50Hz, 5 Secs
*-25°C ~ +55°C

Operations
Mechanical:
Electrical:

1,000,000 (min)
200,000 (min)

Sealing (Front of Panel Only)

IP65

Shock Resistance

IK08

Rear Nut Fixing Torque:

0.3Nm

Materials

Mouldings:
Tags/Terminations:
Switch Body & Button:

| | | | | | |
|-----------------------|----------------------|-----------------|---------------------|---------------------------------------|---------------------------------------|
| Mouldings: | PBT | | | | |
| Tags/Terminations: | Brass, Silver Plated | | | | |
| Switch Body & Button: | Stainless Steel | Stainless Steel | Nickel Plated Brass | Black Anodized Body, Black PBT Button | Black Anodized Body, Green PBT Button |

Contacts:
Thread size:
RoHS

Silver Alloy
M12x1
Compliant

12mm Miniature Vandal Resistant Stainless Steel Switch

| | | | | | |
|--------------------------|---|--|--|---|---|
| MAV0120 | X | X | X | X | X |
| Series MAV0120 | Button 1 = Flush 3 = Prominent | Switching Type D = Momentary | Type of Illumination Blank = None 1 = Dot 2 = Ring | Illumination Colour Blank = None RD = RED GN = GREEN BL = BLUE AM = AMBER/YELLOW OR = ORANGE | Lamp Voltage 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 MMP0120 = Non Illuminated MMP10120 = Illuminated | Body Material S = Stainless Steel N = Nickel Plated Brass A = Black Anodized | Button Material & Colour SS = Nickel Plated Brass RD = RED PBT GN = GREEN PBT BL = BLUE PBT BK = BLACK PBT | Sealing Blank = IP65 67 = IP67 IP67 (non-illuminated only) | Illumination Colour Blank = None RD = RED GN = GREEN BL = BLUE AM = AMBER/YELLOW OR = ORANGE | Lamp Voltage Blank = None 012 = 12V 024 = 24V Other voltages require external resistor | Termination 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
 MMP10120/NNBRD012P = 12mm, Illuminated, All Nickel Plated Brass with 12V Red Dot illumination, IP65, Pin Terminals