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.
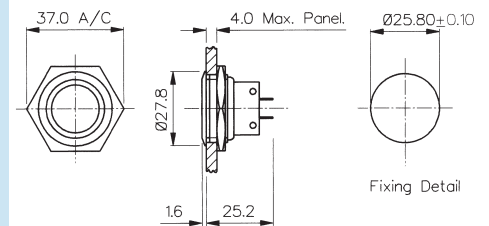
Stainless Steel Low Profile Vandal Resistant
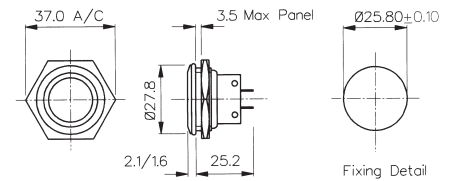
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Front Panel Mounting

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

MP0027

37.0 A/C 4.0 Max. Panel. Ø25.80±0.10
Ø27.8
1.6 25.2
Fixing Detail

Front Panel Mounting

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

MP0038
Sealed to IP66

37.0 A/C 3.5 Max Panel Ø25.80±0.10
Ø27.8
2.1/1.6 25.2
Fixing Detail

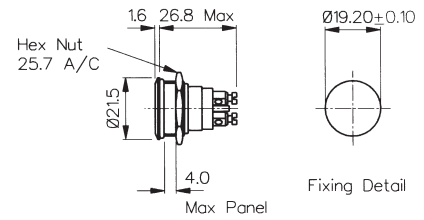| Specifications	MP0027	MP0038
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10³ MΩ	>10³ MΩ
Dielectric Strength:	>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: Electrical:	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	1.0" x 26TPI
RoHS	Compliant	Compliant

Stainless Steel Low Profile Vandal Resistant
Momentary

Front Panel Mounting
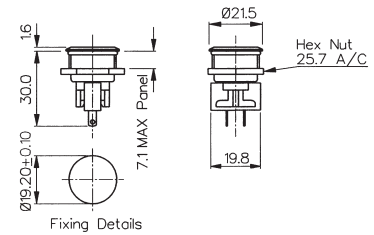
MP0037
Sealed to IP68

- 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): IP68 rating 10M for 2 weeks test:	Protection Classification: IP68 EN 60529:1992+A2:2013 (Micro switch not sealed) Passed	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations Mechanical: Electrical:	1,000,000 (min) 30,000 (min)	1,000,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	4.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Silver Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver
Thread size:	0.747" x 26TPI	0.747" x 26TPI
RoHS	Compliant	Compliant

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Front Panel Mounting

○ 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- front panel seal to IP66

25.7 A/C   1.5   A   Ø19.2±0.1

Ø22.0

11.0 Max Panel   Fixing Details

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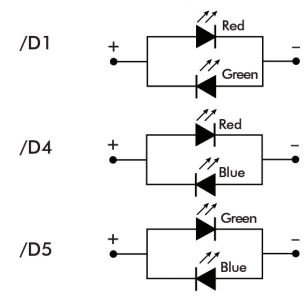MPI001/TERM/COL A = 31.0 MAX.

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: >10³ 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
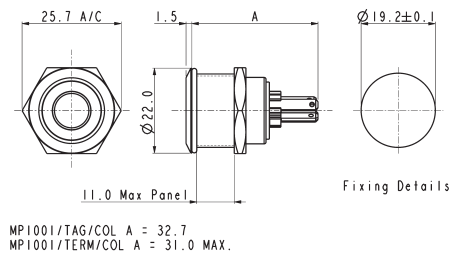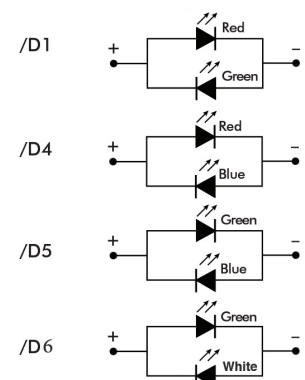RoHS   Compliant

Dual Colour LED Configuration

/D1   + Red − Green
/D4   + Red − Blue
/D5   + Green − Blue

Stainless Steel Illuminated Vandal Resistant
LED

Front Panel Mounting

○ 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

MPI002- front panel seal to IP66

```
25.7 A/C     1.5      A          Ø19.2±0.1

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

Ø22.0    11.0 Max Panel    Fixing Details
```

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:	>10³ 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

RoHS

ESD Handling precautions must be taken
Compliant

Dual Colour LED Configuration

/D1   + —[Red]—[Green]— −
/D4   + —[Red]—[Blue]— −
/D5   + —[Green]—[Blue]— −
/D6   + —[Green]—[White]— −

Stainless Steel Illuminated Vandal Resistant

Rear of panel IP66 seal

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Rear Panel Sealed - Flying Leads

○ 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

MPI002/FL/xx/x
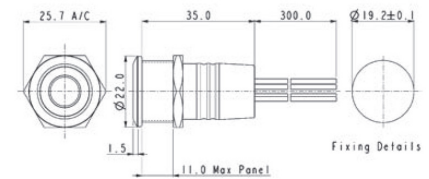
Flying lead colours: LED: red + and black –. Switch contacts: white.

Rear Panel Sealed - Solder Tags

○ 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

MPI001/RP/xx/x
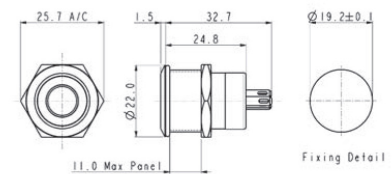
LED terminals marked + and –. Switch terminals unmarked.

Specifications	MPI001/Termination/Colour/Voltage					MPI002/Termination/Colour/Voltage				
Illumination style:	Dot					Ring				
Terminations:	/FL (Flying leads)					/FL (Flying leads)				
	/RP (Solder tags)					/RP (Solder tags)				
Switching:	Single pole, push to make, tactile (momentary action)					Single pole, 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:	>10³ MΩ					>10³ MΩ				
Dielectric Strength:	Contact to Panel >2.0kV					Contact to Panel >2.0kV				
	Contact to Contact 1500					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)					750,000 (min)				
Electrical:	35,000 (min)					35,000 (min)				
Operating Pressure:	12N					12N				
Rear Nut Fixing Torque:	0.57Nm					0.57Nm				
Materials										
Switch assembly:	UL94V-0 rated Polyamide (Nylon)					UL94V-0 rated Polyamide (Nylon)				
Tags:	Copper Alloy					Copper Alloy				
Terminals:	Copper Alloy					Copper Alloy				
Switch Body & Button:	Stainless Steel					Stainless Steel				
Lens and Lens Body:	Polycarbonate					Polycarbonate				
O ring:	Nitrile					Nitrile				
Internal seal:	Silicone					Silicone				
Contact Plate:	Gold Plated					Gold Plated				
Thread size:	18.97mm x 26TPI					18.97mm x 26TPI				
						ESD Handling precautions must be taken				
RoHS	ESD Handling precautions must be taken									
	Compliant					Compliant				

Low Profile Brass Chrome Plated Vandal Resistant

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Front Panel Mounting

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

MPB038
Sealed to IP66

37.0 A/C · 4.0 Max. Panel. · Ø25.80±0.10 · Ø27.8 · 1.6 · 25.2 · Fixing Detail

Front Panel Mounting

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

MPB031
Sealed to IP66

Ø21.5 · Hex Nut 25.7 A/C · 1.6 · 30.0 · Ø19.20±0.10 · 7.1 MAX Panel · 19.8 · Fixing Details

Front Panel Mounting

⬡ Front Panel Sealed to IP68
⬡ 21.5mm diameter
⬡ S.P. Push to Make
⬡ 1A, 50Vac/dc
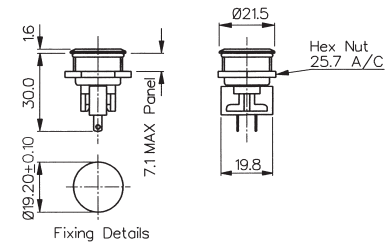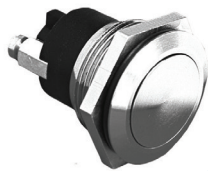
MPB037
Sealed to IP68

1.6 · 26.8 Max · Ø19.20±0.10 · Hex Nut 25.7 A/C · Ø21.5 · 4.0 Max Panel · Fixing Detail
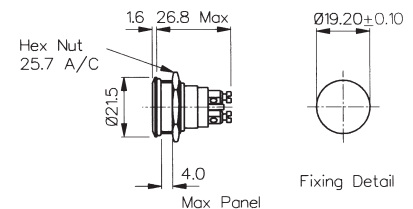
Specifications	MPB038	MPB031	MPB037
Terminations:	Solder Tags	Solder Tags	Screw Terminals
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P. Push to make Momentary action
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc	1A, 50Vac/dc
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10³ MΩ	>10³ MΩ	>10⁵ 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: Electrical:	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)	1,000,000 (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: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Brass	Glass Filled Nylon Brass, Tin Plated Brass	Glass Filled Nylon Brass, Tin Plated 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

Stainless Steel Large Diameter Vandal Resistant
Momentary

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Front Panel Mounting - Low Profile

MP0050

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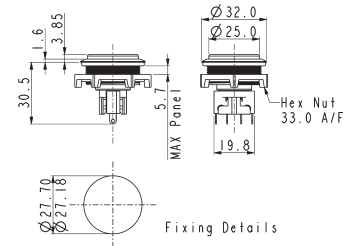◇ Momentary action
◇ 5A, 250Vac
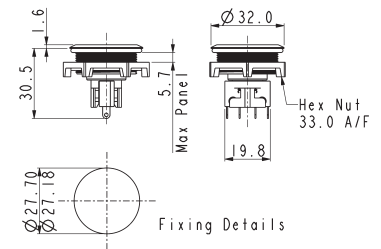
Front Panel Mounting - Protruding Profile

MP0050/2

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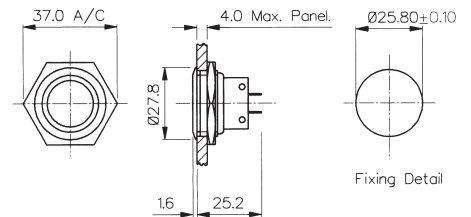◇ Momentary action
◇ 5A, 250Vac

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: Electrical:	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)
Operating Pressure:	4.7Nm	4.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Fine Silver	Fine Silver
Thread size:	M27 x 1.0-6H	M27 x 1.0-6H
RoHS	Compliant	Compliant

Stainless Steel Domed Vandal Resistant

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Front Panel Mounting

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

MP0027/3

37.0 A/C   4.0 Max. Panel.   Ø25.80±0.10
Ø27.8
1.6   25.2
Fixing Detail

Front Panel Mounting

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

MP0038/3
Sealed to IP66

36.7 A/C   3.5 Max Panel   Ø25.8±0.1
Ø27.8
3.8   25.2
Fixing Detail

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:	>10³ MΩ	>10³ 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: Electrical:	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	0.747" x 26TPI
RoHS	Compliant	Compliant

Stainless Steel Domed Vandal Resistant

Front Panel Mounting

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

MP0037/3
Sealed to IP68

Hex Nut 25.7 A/C
3.6 28.0
Ø19.20+0.10
Ø21.5
4.0
Max Panel
Fixing Detail

Front Panel Mounting

○ Front Panel Sealed to IP66
○ 21.5mm diameter
○ Domed Profile
○ S.P.C.O. Microswitch
○ 5A, 250Vac
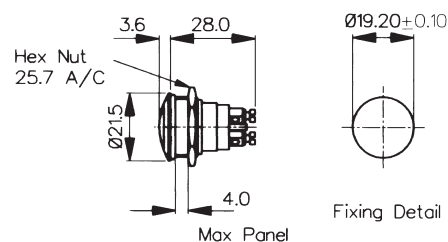
MP0031/3
Sealed to IP66

3.6
Ø21.5
Hex Nut 25.7 A/C
30.0
7.1 MAX Panel
Ø19.20+0.10
19.8
Fixing Details
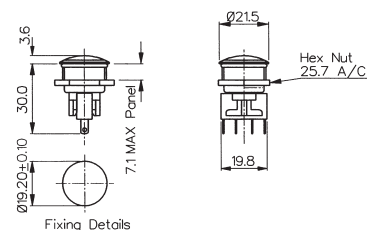
Specifications	MP0037/3	MP0031/3
Terminations:	Screw Terminals	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10^5 MΩ	>10^3 MΩ
Dielectric Strength:	>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: Electrical:	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	4.7N (typ)
Rear Nut Fixing Torque:	2.5Nm	0.57Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver
Thread size:	0.747" x 26TPI	0.747" x 26TPI
RoHS	Compliant	Compliant

Stainless Steel Prominent Button Vandal Resistant

Front Panel Mounting

MP0027/2

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

37.0 A/C

Ø27.8

4.0 Max. Panel.

Ø25.80±0.10

1.6   25.2

Fixing Detail

Front Panel Mounting

MP0038/2
Sealed to IP66

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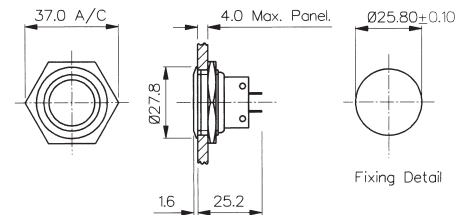- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250Vac
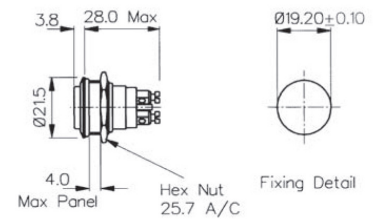
37.0 A/C

Ø27.8

4.0 Max. Panel.

Ø25.80±0.10

1.6   25.2

Fixing Detail
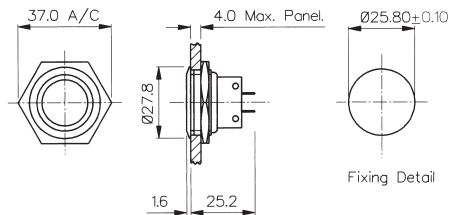
Specifications	MP0027/2	MP0038/2
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10^3 MΩ	>10^3 MΩ
Dielectric 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: Electrical:	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	1.0" x 26TPI
RoHS	Compliant	Compliant

Stainless Steel Prominent Button Vandal Resistant
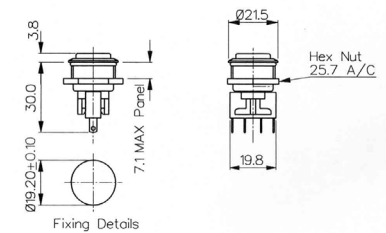
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Front Panel Mounting

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

MP0037/2
Sealed to IP68

3.8   28.0 Max   Ø19.20±0.10
Ø21.5
4.0
Max Panel   Hex Nut
25.7 A/C   Fixing Detail

Front Panel Mounting

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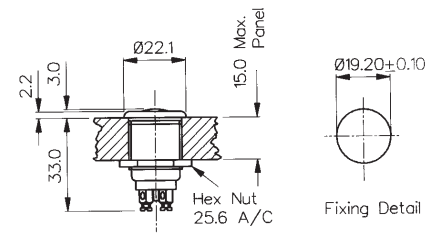- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250Vac

MP0031/2
Sealed to IP66

3.8   Ø21.5   Hex Nut 25.7 A/C
30.0
7.1 MAX Panel
Ø19.20±0.10   19.8
Fixing Details

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: Electrical:	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	4.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver
Thread size:	0.747" x 26TPI	0.747" x 26TPI
RoHS	Compliant	Compliant

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Front Panel Mounting

MP0013
MP0033

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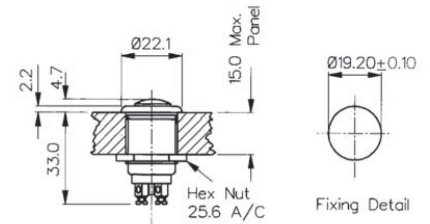- MP0033 Internally Sealed

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:	>10⁴ MΩ	>10⁴ 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: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Silver Plated Body: Brass, Chrome Plated Button: Stainless Steel	Glass Filled Nylon Brass, Silver Plated 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
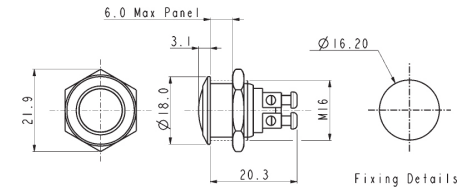- Polished finish
- 2A, 48Vdc
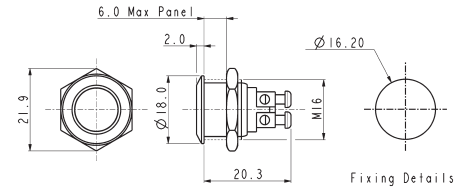
Domed Profile

MP0042/2

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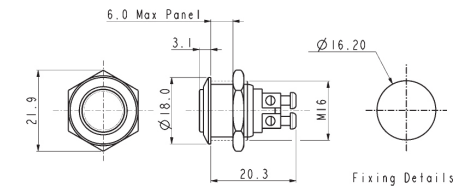- S.P. Push to make
- Polished finish
- 2A, 48Vdc

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: Electrical:	1,000,000 (min) 100,000 (min)	1,000,000 (min) 100,000 (min)	1,000,000 (min) 100,000 (min)
Rear Nut Fixing Torque:	12Nm	12Nm	12Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Nylon Brass, Silver Plated Stainless Steel (Polished)	Nylon Brass, Silver Plated Stainless Steel (Polished)	Nylon Brass, Silver Plated 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
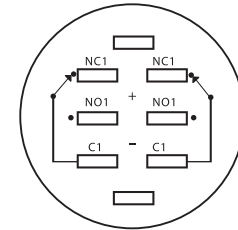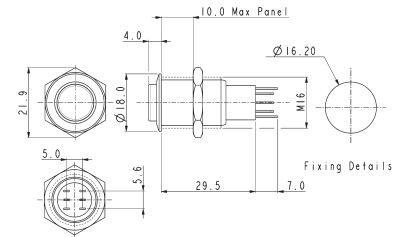- 16mm fixing hole diameter
- D.P.C.O
- 250V ac
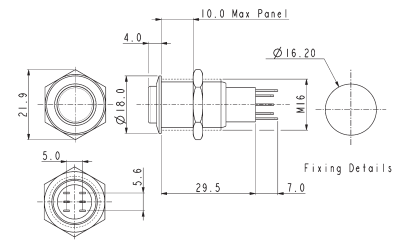
Prominent Button

MP0045/3D

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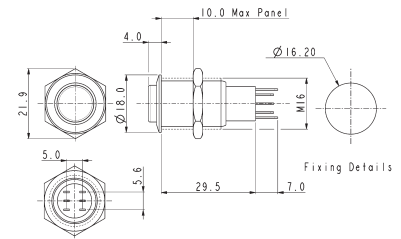- D.P.C.O
- 250V ac

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: Electrical:	200,000 (min) 30,000 (min)	200,000 (min) 30,000 (min)
Rear Nut Fixing Torque:	12Nm	12Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Nylon Brass, Silver Plated Stainless Steel	Nylon Brass, Silver Plated 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

Stainless Steel - Latching

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Low Profile

MP0045/1E

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

10.0 Max Panel
4.0
Ø16.20
21.9
Ø18.0
M16
5.6
5.0
29.5
7.0
Fixing Details

Prominent Button

MP0045/3E

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

10.0 Max Panel
4.0
Ø16.20
21.9
Ø18.0
M16
5.6
5.0
29.5
7.0
Fixing Details

NC1   NC1
NO1 + NO1
C1   -   C1
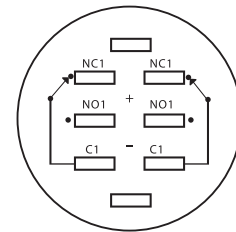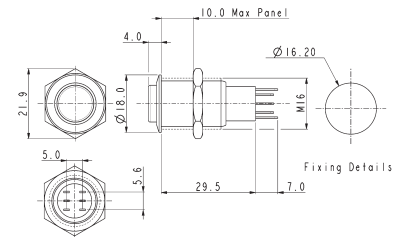
Contact Layout

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:	>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: Electrical:	200,000 (min) 30,000 (min)	200,000 (min) 30,000 (min)
Rear Nut Fixing Torque:	12Nm	12Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Nylon Brass, Tin Plated Stainless Steel (Polished)	Nylon Brass, Tin Plated 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

Stainless Steel Illuminated Momentary

Front Panel Mounting

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

MP0045/1D1

Front Panel Mounting

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

MP0045/1D2

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 Part No.	Red Green Amber Blue /RD /GN /AM /BL	Red Green Amber Blue /RD /GN /AM /BL
Voltage Part No.	12Vdc 220Vdc /012 /220	12Vdc 220Vdc /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: Electrical:	200,000 (min) 30,000 (min)	200,000 (min) 30,000 (min)
Rear Nut Fixing Torque:	12Nm	12Nm
Materials Mouldings: Tags: Switch Body & Button: Variants	Nylon Brass, Silver Plated Stainless Steel (Polished) Prominent Button, details on request	Nylon Brass, Silver Plated Stainless Steel (Polished) Prominent Button, details on request
RoHS	Compliant	Compliant

Front Panel Mounting

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

MP0045/1E1
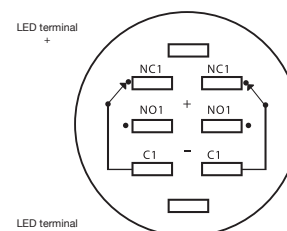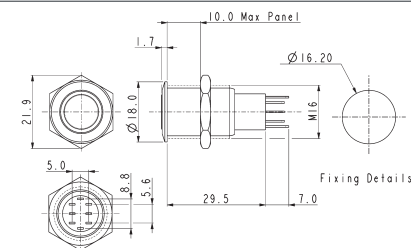
10.0 Max Panel
2.0
Ø16.20
21.9
Ø18.0
M16
5.0
8.8
5.6
29.5
7.0
Fixing Details

Front Panel Mounting

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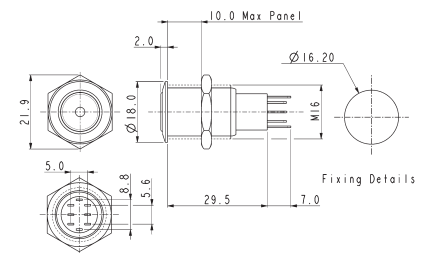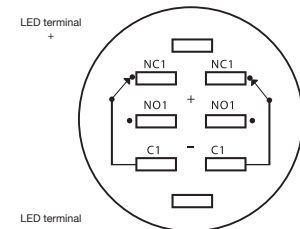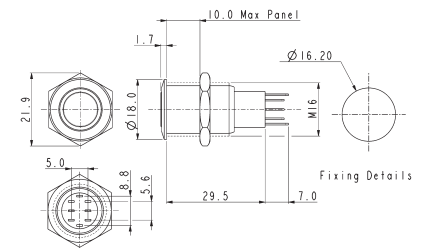- Red, Green, Amber or Blue Illumination
- Separate LED Terminals

MP0045/1E2

10.0 Max Panel
1.7
Ø16.20
21.9
Ø18.0
M16
5.0
8.8
5.6
29.5
7.0
Fixing Details

LED terminal +

NC1   NC1
NO1   +   NO1
C1   -   C1

LED terminal -

Contact Layout

Specifications	MP0045/1E1/Colour/Voltage	MP0045/1E2/Colour/Voltage
Terminations:	Solder Tags	Solder Tags
Illumination:	Ring	Ring
Switching:	D.P.C.O. Momentary Action	D.P.C.O. Momentary Action
Max. Switch Rating:	3A, 250Vac	3A, 250Vac
LEDs Colours Part No.	Red Green Amber Blue /RD /GN /AM /BL	Red Green Amber Blue /RD /GN /AM /BL
Voltage Part No.	12Vdc 220Vdc /012 /220	12Vdc 220Vdc /012 /220
Contact Resistance:	50mΩ max. @ 1A, 2Vdc	50mΩ max. @ 1A, 2Vdc
Insulation Resistance:	>10³ MΩ @ 500Vac	>10³ MΩ @ 500Vac
Dielectric Strength:	>2.0kVac	>2.0kVac
Operating Temp. Range:	−20°C to +55°C	−20°C to +55°C
Operations Mechanical: Electrical:	200,000 (min) 30,000 (min)	200,000 (min) 30,000 (min)
Rear Nut Fixing Torque:	12Nm	12Nm
Materials Mouldings: Tags: Switch Body & Button: Variants	Nylon Brass, Silver Plated Stainless Steel (Polished) Prominent Button, details on request	Nylon Brass, Silver Plated Stainless Steel (Polished) Prominent Button, details on request
RoHS	Compliant	Compliant

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

H8300RP - - -

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)
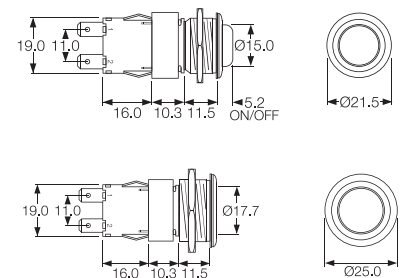6(6)A 250Vac T125, 5E4 (50,000 Operations)

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)

19.0 11.0 | Ø15.0
16.0 10.3 11.5 | 5.2 ON/OFF
Ø21.5

19.0 11.0 | Ø17.7
16.0 10.3 11.5
Ø25.0

Terminal	Function	Actuator	Body Code
C **H**	**8300** (alternate) Single pole ON - OFF	**R** (for P body only) Raised top (stainless steel)	
C 10.1 H 8.5	**8301** (momentary ON) Single pole ON - OFF		
K **T**	**8350** (alternate) Double pole ON - OFF	**V** Flat top (stainless steel)	**P** (for R actuator only) Stainless steel, Soft profile bezel
K 2.6 8.5 1.5 T 2.6 7.0 1.5			Ø19.2
V **X**	**8301** (momentary ON) Single pole ON - OFF	**P** Domed top (stainless steel)	**M** Stainless steel
V 4.3 3.7Ctrs X 4.5 7.0			Ø22.5

0911 Vandal Resistant Switches

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C0911VA - - -

Key Features

○ Snap action switches

○ Ratings up to 16A, 250Vac

○ Round and rectangular buttons

○ Single Pole C/O Switch

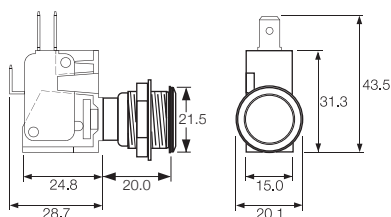## Approvals and specifications

16(4)A 250Vac 5E4 T85

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

21.5 24.8 20.0 28.7 31.3 43.5 15.0 20.1

Terminal	Function	Actuator	Body Code
12.0	**0911** (momentary) ON - ON	**V** Flat top (stainless steel)	**A** Stainless steel Chamfer profile bezel Ø19.2 Panel cut-out Panel thickness up to 8.0mm

Miniature Stainless Steel Vandal Resistant

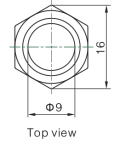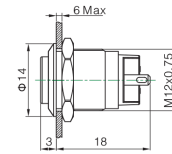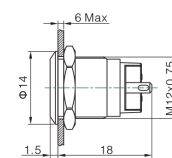Prominent Button / Flush Profile

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MAV0120

MAV0120

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

Prominent Profile

Flush Profile
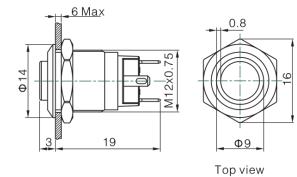
Top view

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

MAV0120

MAV0120

- ○ Dot and Ring Illumination
- ○ Prominent and Flush Profile
- ○ 12mm Diameter
- ○ 2A, 36 dc
- ○ Bright daylight LEDs
- ⬡ IP67 (Front of Panel Only)
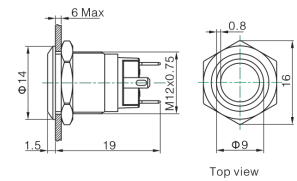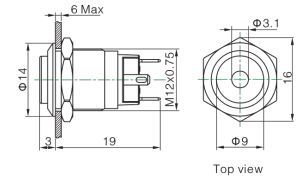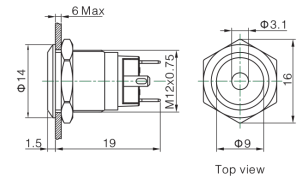
Specification	**MAV0120**
Terminations:	P - Solder Tabs
Switching:	S.P. Push to make
Max Rating:	2A, 36Vdc
Profile:	Prominent /3 Flush /1
Illumination Type	/1 Dot /2 Ring

LED Ratings
Part No.

Colours	/RD	/GN	/BL	/OR	/AM
	Red	Green	Blue	Orange	Yellow
Luminous Intensity					
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:	Copper, Gold Plated
Switch Body & Button:	Stainless Steel
Contacts:	Silver Alloy
Thread size:	M12x0.75
RoHS	Compliant

Miniature Domed Metal Vandal Resistant

None Illuminated - Metal Dome

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MMP0120

MMP0120

MMP0120

- ⬡ Raised Domed Profile
- ⬡ 12mm Diameter
- ⬡ 2A, 36Vac
- ⬡ IP65 or IP67 (Front of Panel Only)
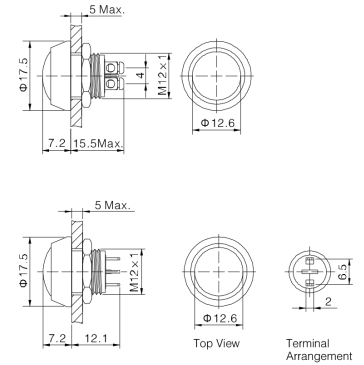
Specification	MMP0120/S	MMP0120/N
Terminations:	P - Solder Tabs S - Screw Terminal	P - Solder Tabs S - Screw Terminal
Switching:	S.P. Push to make	S.P. Push to make
Max Rating:	2A, 36Vdc	2A, 36Vdc
Contact Resistance:	≥50MΩ	≥50MΩ
Insulation Resistance:	≥1000MΩ	≥1000MΩ
Dielectric Strength:	1500V, AC 50Hz, 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)	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

Top View

Terminal Arrangement

Miniature Domed Illuminated Pushbutton

Stainless Steel and PBT

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MMPI0120

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

MMPI0120

Top View   Terminal Arrangement

Specification — MMPI0120
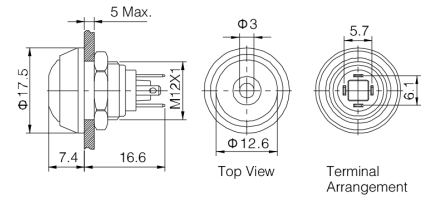
Specification	MMPI0120				
Terminations:	P - Solder Tabs				
Switching:	S.P. Push to make				
Max Rating:	2A, 36Vdc				
LED Ratings					
Part No.	SS-RD	SS-GN	NN-RD	ABK-RD	AG-RD
Colours	Red	Green	Red	Red	Red
Luminous Intensity					
Forward Voltage	1.8V	2.8V	1.8V	1.8V	1.8V
Forward Current					
Moulding 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, 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:	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 = 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, Pin Terminals

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67021K512 67081K512X 701PB580 7190K101 7199K101 810K12910 810KSV30B MML21EA2ADK MML21KA3ABK
MML23KA3AC05K-001 MML23KW3AA01W 8418K2 8442K3 8450K1 860K11911T01A 861901 861K11911T01A07
861K13810T00A14 861K13911 8646AB6X718UL 8646ABUL 9001KXRK 907AYY100 PMHD155A1 95-313.000
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A22NZBNANGA A22NZMPATRA A2PMA1X03EC56 A3A-5123-02 A3A-7140 A3A-7310 A3A-7340 A3U-TMW-A2C-5M A595