

Switches

Manufactured from Stainless Steel, Bulgin's extensive range of vandal resistant security switches are designed with a high resistance to wear and tear, corrosion and harsh use in potentially hostile environments such as access control applications.

The front and rear panel mounted versions have three profiles – prominent, domed and low profile – with a choice of switching and IP66 & 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.

The standard range of vandal resistant switches are complemented by a range of 16mm stainless steel switches of robust construction designed for use in applications where space is at a premium.

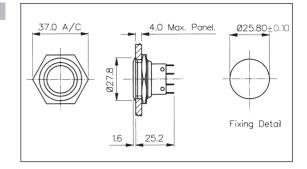
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Stainless Steel Low Profile Vandal Resistant - Momentary

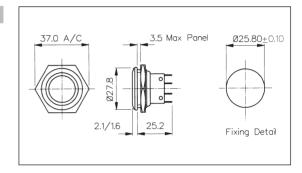
FRONT PANEL MOUNTING MP0027

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



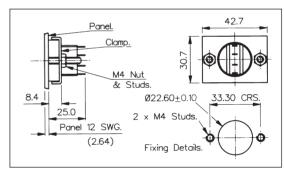
MP0038 Sealed to IP66

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





- 22mm diameter
- S.P.C.O. Microswitch
- 5A, 250Vac



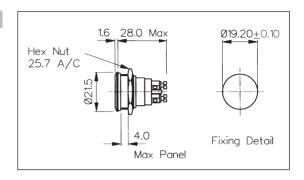
Specification	MP0027	MP0038	MP0025
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	<10mΩ	$<$ 10m Ω	<10mΩ
Insulation Resistance:	>10 ³ MΩ	$>10^3 M\Omega$.	$>10^3 M\Omega$
Dielectric Strength:	>2.0kVac	>2.0kVac	>2.0kVac
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 1992 (Micro switch not sealed)	
Operations Mechanical: Electrical:	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)	6.1N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm	-
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Fine Silver	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	1.0" x 26TPI	-
RoHS	Compliant	Compliant	Compliant



Stainless Steel Low Profile Vandal Resistant - Momentary

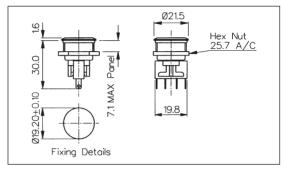
FRONT PANEL MOUNTING MP0037 Sealed to IP68

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



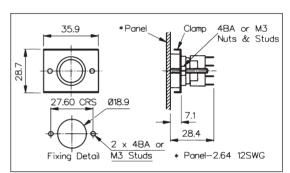


- Front Panel Sealed to IP66
- 21.5mm diameter
- S.P.C.O. Microswitch
- 5A, 250Vac





- Rear Panel Mounting
- Flush with Panel
- 19mm diameter
- S.PC.O. Microswitch
- 5A, 250Vac



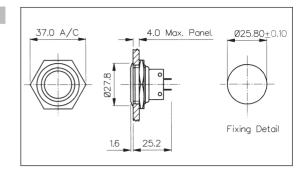
Specification	MP0037	MP0031	MP0034
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	<10mΩ	$<$ 10m Ω	<10mΩ
Insulation Resistance:	>10 ⁵ MΩ	$>10^3 M\Omega$.	$> 10^3 M\Omega$
Dielectric Strength:	>1.0kVac	>2.0kVac	>2.0kVac
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: IP68 EN60529 1992 (Terminals not sealed)	Protection Classification: IP66 EN60529 1992 (Micro switch not sealed)	
Operations Mechanical: Electrical:	1,000,000 (min) 30,000 (min)	1,000,000 (min) 35,000 (min)	250,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	4.7N (typ)	2.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm	-
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Silver Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver	Fine Silver
Thread size:	0.747" x 26TPI	0.747" x 26TPI	-
RoHS	Compliant	Compliant	Compliant



Stainless Steel Low Profile Vandal Resistant - Latching

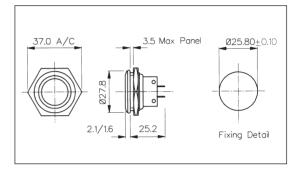
FRONT PANEL MOUNTING MPL027

- 28mm diameter
- 2A, 50Vac/dc
- Single pole push to make
- Latching switch



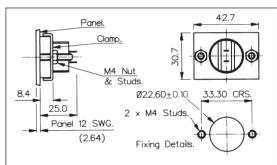
FRONT PANEL MOUNTING MPL038 Sealed to IP66

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





- 22mm diameter
- 2A, 50Vac/dc
- Single pole push to make
- Latching switch



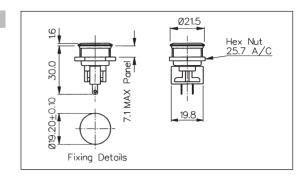
Specification	MPL027	MPL038	MPL025
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.M.B Latching	S.P.M.B Latching	S.P.M.B Latching
Max. Rating:	2A, 50Vac/dc	2A, 50Vac/dc	2A, 50Vac/dc
Contact Resistance:	$<$ 10m Ω	$<$ 10m Ω	<10mΩ
Insulation Resistance:	$> 10^3 M\Omega$	$> 10^3 M\Omega$.	$> 10^3 M\Omega$
Dielectric Strength:	>2.0kVac	>2.0kVac	>2.0kVac
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 1992 (Switch not sealed)	-
Operations Mechanical: Electrical:	8,000 (min) 8,000 (min)	8,000 (min) 8,000 (min)	8,000 (min) 8,000 (min)
Operating Pressure:	5.5N (typ)	5.5N (typ)	5.5N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm	_
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Fine Silver	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	1.0" x 26TPI	-
RoHS	Compliant	Compliant	Compliant



Stainless Steel Low Profile Vandal Resistant - Latching

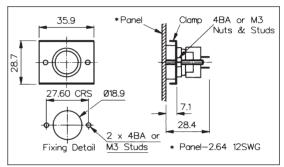
FRONT PANEL MOUNTING MPL031 Sealed to IP66

- Front Panel Sealed to IP66
- 21.5mm diameter
- 2A, 50Vac/dc
- Single pole push to make
- Latching switch



REAR PANEL MOUNTING MPL034

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



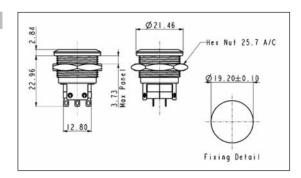
Specification	MPL031	MPL034	
Terminations:	Solder Tags	Solder Tags	
Switching:	S.P.M.B Latching	S.P.M.B Latching	
Max. Rating:	2A, 50Vac/dc	2A, 50Vac/dc	
Contact Resistance:	<10mΩ	<10mΩ	
Insulation Resistance:	$> 10^3 M\Omega$	$> 10^3 M\Omega$	
Dielectric Strength:	>2.0kVac	>2.0kVac	
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C	
Sealing (Front of panel only):	Protection Classification: IP66 EN60529 1992 (Switch not sealed)		
Operations Mechanical: Electrical:	8,000 (min) 8,000 (min)	8,000 (min) 8,000 (min)	
Operating Pressure:	5.5N (typ)	5.5N (typ)	
Rear Nut Fixing Torque:	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:	0.747" x 26TPI	-	
RoHS	Compliant	Compliant	



Stainless Steel Low Profile Vandal Resistant - Momentary - Double Pole



- Front Panel Sealed to IP66
- 21.5mm diameter
- D.P.C.O. Microswitch
- 3A, 125Vac



Specification	MPD031
Terminations:	Solder Tags
Switching:	D.P.C.O. Momentary Action (Microswitch)
Max. Rating:	3A, 125Vac
Contact Resistance:	$30\text{-}100$ m Ω max.
Insulation Resistance:	100 Μ Ω min.
Dielectric Strength:	1,000VacRMS
Operating Temp. Range:	–20°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP66 EN60529 1992 (Micro switch not sealed)
Operations Mechanical: Electrical:	1,000,000 10,000 @ 3A, 125Vac
Rear Nut Fixing Torque:	0.57Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Brass, Silver Plated
Thread size:	0.747" x 26TPI
RoHS	Compliant

/D5

Green/Blue

4000mcd/2000mcd

3.6V/3.6V

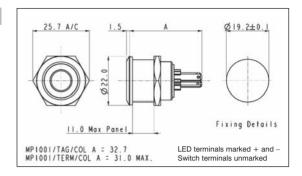
20mA Black

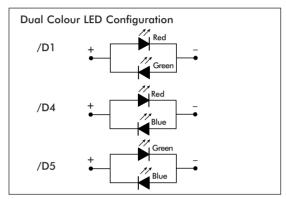


Stainless Steel Illuminated Vandal Resistant



- 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





/D4

Red/Blue

2000mcd/850mcd

2.0V/3.6V

20mA

Black

Specification MPI001/Termination/Colour/Voltage

/RD

Red

900mcd

1.85V

Illumination style: Dot

/28 (2.8mm tabs), Terminations:

/TERM or /TE (screw terminals)

/GN

3.5V

24Vdc

Green

2500mcd

Switching: Single pole, push to make, tactile (momentary action)

Max. Switch Rating: 50mA, 24Vdc

LEDs (ratings @ 20mA)

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

20_mA 20mA Red Moulding Colour Green Illumination Voltage: /no suffix No resistor fitted. An appropriate resistor must be series connected by the user. Voltages as above. 6Vdc /12 12Vdc

/24 Contact Resistance: $< 100 m\Omega$ $> 10^{3} M\Omega$ Insulation Resistance:

Contact to Panel >2.0kV Dielectric Strength: Contact to Contact 1500V

Operating Temp. Range: -30°C to +70°C

Protection Classification: IP66 EN60529 1992 Sealing (Front of panel only):

Operations

. Mechanical: 750,000 (min) Electrical: 35,000 (min) 12N **Operating Pressure:** Rear Nut Fixing Torque: 0.57Nm

Materials

Switch assembly: UL94V-0 rated Polyamide (Nylon)

Copper Alloy Tags: Copper Alloy Terminals: Switch Body & Button: Stainless Steel Lens and Lens Body: Polycarbonate O ring: Nitrile Internal seal: Silicone

Gold Plated Contact Plate: Thread size: 18.97mm x 26TPI

ESD Handling precautions must be taken Compliant

www.elektron-bulgin.com

/WH

White

3.6V

20mA

White

900mcd

/D1

Red/Green

2500mcd/5000mcd

2.05V/3.6V

20mA

Black

/RI

Blue

3.5V

Blue

20mA

1500mcd

/AM

Amber

2.3V

20mA

Amher

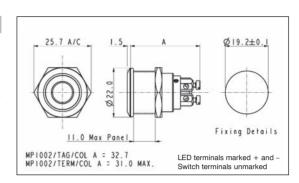
900mcd

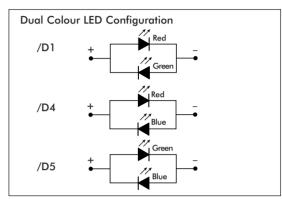


Stainless Steel Illuminated Vandal Resistant



- 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





Specification MPI002/Termination/Colour/Voltage

/RD

Illumination style: Ring

/28 (2.8mm tabs), Terminations:

/TERM or /TE (screw terminals)

/GN

Switching: Single pole, push to make, tactile (momentary action)

Max. Switch Rating: 50mA, 24Vdc

LEDs (ratings @ 20mA)

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

Red Green 900mcd 2500mcd 1.85V 3.5V 20mA 20mA Red Green

900mcd 2.3V 20mA Amber

/AM

Amber

Blue 1500mcd 3.5V 20mA Blue

/RI

White 900mcd 3.6V 20mA White

/WH

Red/Green 2500mcd/5000mcd 2.05V/3.6V 20mA Black

/D1

Red/Blue 2000mcd/850mcd 2.0V/3.6V 20mA Black

/D4

/D5 Green/Blue 4000mcd/2000mcd 3.6V/3.6V 20mA

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: $< 100 m\Omega$ $> 10^{3} M\Omega$ Insulation Resistance:

Dielectric Strength: Contact to Panel >2.0kV Contact to Contact 1500V

Operating Temp. Range: -30°C to +70°C

Protection Classification: IP66 EN60529 1992 Sealing (Front of panel only):

Operations

Mechanical: 750.000 (min) Electrical: 35,000 (min) 12N Operating Pressure:

Rear Nut Fixing Torque: 0.57Nm

Materials

Switch assembly: UL94V-0 rated Polyamide (Nylon)

Copper Alloy Tags: Copper Alloy Terminals: 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

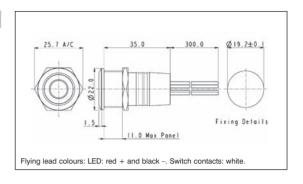


MPI002/FL/xx/x

Stainless Steel Illuminated Vandal Resistant with rear of panel IP66 seal

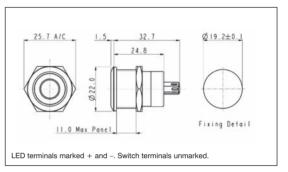
REAR PANEL SEALED - FLYING LEADS

- 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
- Flying lead termination
- TVS protection





- 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/Termination/Colour/Voltage

Illumination style:

Terminations:

Specification

/FL (Flying leads)

Switching:

Max. Switch Rating: LEDs (ratings @ 20mA)

Part No. Colours **Luminous Intensity**

Forward Voltage **Forward Current**

Illumination Voltage:

/RD Red Green Amber Blue White 900mcd 2500mcd 900mcd 1500mcd 1.85V 3.5V 3 5V 2.3V 3 6V 20mA 20mA 20mA 20mA 20mA

/no suffix 6Vdc

Contact Resistance: $< 100 m\Omega$ Insulation Resistance: $> 10^3 M\Omega$

Dielectric Strength:

Operating Temp. Range:

Sealing

(Front & rear of panel):

Operations

. Mechanical: Electrical:

Operating Pressure: Rear Nut Fixing Torque:

Materials

Switch assembly:

Tags: Leads:

Switch Body & Button: Lens and Lens Body: O ring: Internal seal:

Contact Plate: Thread size:

/RP (Solder tags)

Single pole, push to make, tactile (momentary action) 50mA, 24Vdc

/GN /AM /WH 900mcd

> No resistor fitted. An appropriate resistor must be series connected by the user. Voltages as above.

/12 12Vdc /24 24Vdc

Contact to panel >2.0kV Contact to contact 1500V

-30°C to +70°C

Protection classification: IP66, EN60529 1992

750,000 (min) 35,000 (min)

12N 0.57Nm

UL94V-0 rated Polyamide (Nylon)

Copper Alloy

Tinned, stranded copper conductors

Stainless Steel Polycarbonate Nitrile Silicone Gold Plated 18.97mm x 26TPI

ESD Handling precautions must be taken

Compliant

MPI002/Termination/Colour/Voltage

/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 2.3V 3.5V 1 85V 3 5V 3 6V 20mA 20mA 20mA 20mA 20mA

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

6Vdc /12 12Vdc /24 24Vdc

 $< 100 m\Omega$ $> 10^3 M\Omega$

Contact to panel >2.0kV Contact to contact 1500V -30°C to +70°C

Protection classification: IP66, EN60529 1992

750,000 (min) 35,000 (min) 12N 0.57Nm

UL94V-0 rated Polyamide (Nylon)

Copper Alloy

Tinned, stranded copper conductors

Stainless Steel Polycarbonate Nitrile Silicone Gold Plated 18.97mm x 26TPI

ESD Handling precautions must be taken

Compliant

SWITCHE

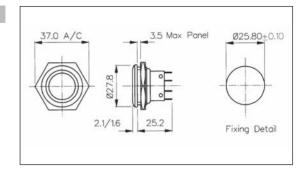


Low Profile Brass Chrome Plated Vandal Resistant

FRONT PANEL MOUNTING



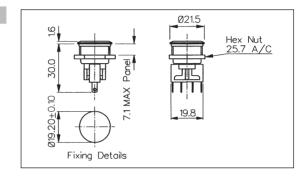
- Front Panel Sealed to IP66
- 28mm diameter
- S.P.C.O. Microswitch
- 5A, 250Vac



FRONT PANEL MOUNTING



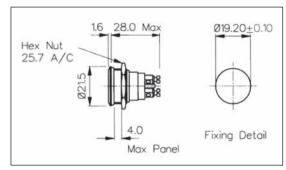
- Front Panel Sealed to IP66
- 21mm diameter
- S.P.C.O. Microswitch
- 5A, 250Vac



FRONT PANEL MOUNTING



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



Specification	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:	$<$ 10m Ω	$<$ 10m Ω	<10mΩ
Insulation Resistance:	$> 10^3 M\Omega$.	$>10^3 M\Omega$	$> 10^5 M\Omega$
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 1992 (Micro switch not sealed)	Protection Classification: IP66 EN60529 1992 (Micro switch not sealed)	Protection Classification: IP68 EN60529 1992 (Terminals not sealed)
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, Chrome Plated	Glass Filled Nylon Brass, Tin Plated Brass, Chrome Plated	Glass Filled Nylon Brass, Silver Plated Brass, Chrome Plated
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

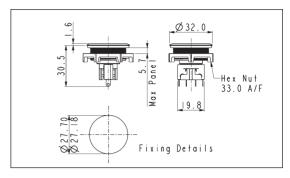


Stainless Steel Large Diameter Vandal Resistant - Momentary

FRONT PANEL MOUNTING - LOW PROFILE



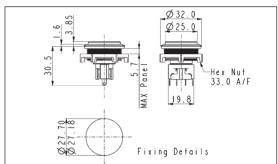
- Front Panel Sealed to IP68
- Flush button
- 32.0mm diameter
- S.P.C.O. switching
- Momentary action
- 5A, 250Vac



FRONT PANEL MOUNTING - PROTRUDING PROFILE



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



Specification	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:	10 m Ω	$10m\Omega$
Insulation Resistance:	$> 10^3 M\Omega$	$>10^3 M\Omega$
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: IP68 EN60529 1992 (Micro switch not sealed)	Protection Classification: IP68 EN60529 1992 (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	4.7Nm
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

SWITCHE

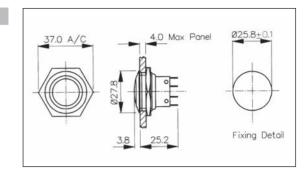


Stainless Steel Domed Vandal Resistant

FRONT PANEL MOUNTING



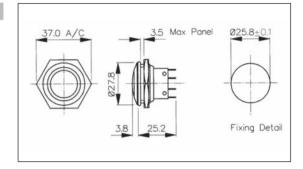
- 28mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250Vac



FRONT PANEL MOUNTING



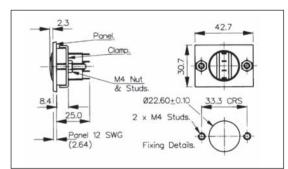
- Front Panel Sealed to IP66
- 28mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250Vac



REAR PANEL MOUNTING



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



Specification	MP0027/3	MP0038/3	MP0025/3
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	$<$ 10m Ω	$<$ 10m Ω	<10mΩ
Insulation Resistance:	$> 10^3 M\Omega$	$>$ 10 3 M Ω .	$>10^3 M\Omega$
Dielectric Strength:	>2.0kVac	>2.0kVac	>2.0kVac
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 1992 (Micro switch not sealed)	-
Operations Mechanical: Electrical:	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)	6.1N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm	-
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Fine Silver	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	1.0" x 26TPI	-
RoHS	Compliant	Compliant	Compliant

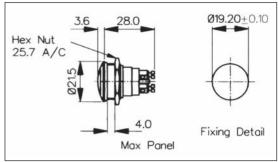
SWITCHES



Stainless Steel Domed Vandal Resistant

FRONT PANEL MOUNTING MP0037/3 Sealed to IP68

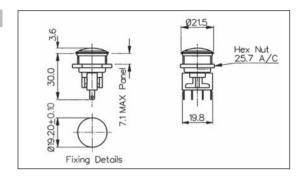
- Front Panel Sealed to IP68
- 21.5mm diameter
- Domed Profile
- S.P. Push to Make
- 1A, 50Vac/dc



FRONT PANEL MOUNTING



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

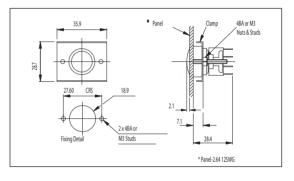


REAR PANEL MOUNTING



Compliant

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



Compliant

Specification	MP0037/3	MP0031/3	MP0034/3
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	$<$ 10m Ω	$<$ 10m Ω	<10mΩ
Insulation Resistance:	$>10^5 M\Omega$	$>10^3 M\Omega$.	$> 10^3 M\Omega$
Dielectric Strength:	>1.0kVac	>2.0kVac	>2.0kVac
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: IP68 EN60529 1992 (Terminals not sealed)	Protection Classification: IP66 EN60529 1992 (Micro switch not sealed)	-
Operations Mechanical: Electrical:	1,000,000 (min) 30,000 (min)	1,000,000 (min) 35,000 (min)	250,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	4.7N (typ)	2.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm	-
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Silver Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver	Fine Silver
Thread size:	0.747" x 26TPI	0.747" x 26TPI	-

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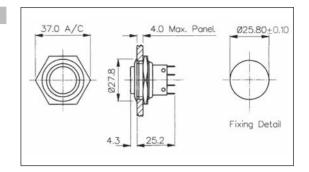
Compliant



Stainless Steel Prominent Button Vandal Resistant

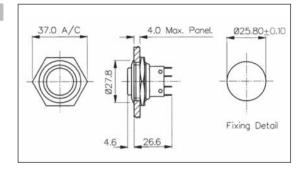


- 28mm diameter
- **Prominent Button**
- S.P.C.O. Microswitch
- 5A, 250Vac



FRONT PANEL MOUNTING MP0038/2 Sealed to IP66

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

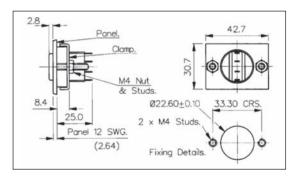


REAR PANEL MOUNTING MP0025/2

MP0027/2

Specification

- 22mm diameter
- **Prominent Button**
- S.P.C.O. Microswitch
- 5A, 250Vac



MP0025/2

Specification	MF0027/2	MF0030/ Z	MF0025/2
Terminations:	Solder Tags	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	$<$ 10m Ω	$<$ 10m Ω	<10mΩ
Insulation Resistance:	$> 10^3 M\Omega$	$> 10^3 M\Omega$.	$>10^3 M\Omega$
Dielectric Strength:	>2.0kVac	>2.0kVac	>2.0kVac
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 1992 (Micro switch not sealed)	-
Operations Mechanical: Electrical:	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)	1,000,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)	6.1N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm	-
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Fine Silver	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	1.0" x 26TPI	-
RoHS	Compliant	Compliant	Compliant

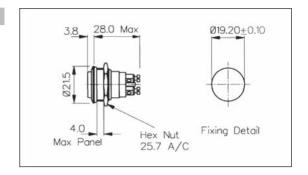
MP0038/2



Stainless Steel Prominent Button Vandal Resistant

FRONT PANEL MOUNTING MP0037/2 Sealed to IP68

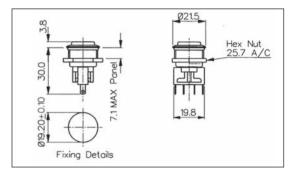
- Front Panel Sealed to IP68
- 21.5mm diameter
- Prominent Button
- S.P. Push to Make
- 1A, 50Vac/dc



FRONT PANEL MOUNTING



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



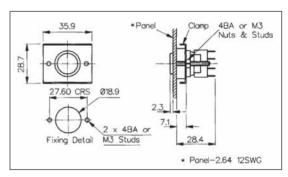
REAR PANEL MOUNTING

RoHS

Compliant



- 19mm diameter
- Prominent Button
- S.PC.O. Microswitch
- 5A, 250Vac



Compliant

Specification	MP0037/2	MP0031/2	MP0034/2
Terminations:	Screw Terminals	Solder Tags	Solder Tags
Switching:	S.P. Push to make Slow momentary action	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	$>10^5 M\Omega$	$>10^3 M\Omega$.	$>10^3 M\Omega$
Dielectric Strength:	>1.0kVac	>2.0kVac	>2.0kVac
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: IP68 EN60529 1992 (Terminals not sealed)	Protection Classification: IP66 EN60529 1992 (Micro switch not sealed)	-
Operations Mechanical: Electrical:	1,000,000 (min) 30,000 (min)	1,000,000 (min) 35,000 (min)	250,000 (min) 35,000 (min)
Operating Pressure:	7.5N (typ)	4.7N (typ)	2.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm	-
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Glass Filled Nylon Brass, Silver Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel	Glass Filled Nylon Brass, Tin Plated Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver	Fine Silver
Thread size:	0.747" x 26TPI	0.747" x 26TPI	-

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Compliant



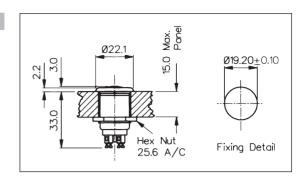
Specification



Push Button



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

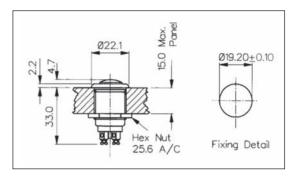


FRONT PANEL MOUNTING



MP0013, MP0033

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



	•		
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	1A, 50Vac	
Contact Resistance:	<15mΩ	<15mΩ	
Insulation Resistance:	$>$ 10 4 M Ω	$> 10^4 \text{ M}\Omega$	
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	
RoHS	Compliant	Compliant	

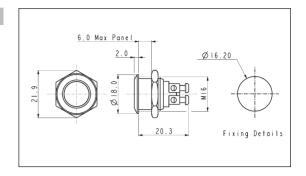
MP0013/2, MP0033/2



Stainless Steel - Momentary

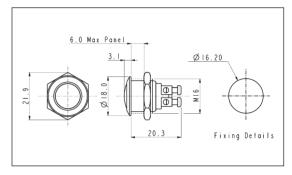
FLUSH PROFILE MP0042/1

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



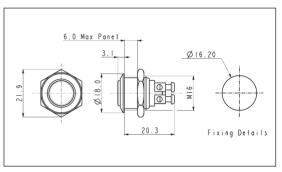
DOMED PROFILE MP0042/2

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





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



Specification	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 M Ω @ 500Vdc	$> 10^3 M\Omega$ @ 500Vdc	$>$ 10 3 M Ω @ 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
Variants:	Gold Plated Brass version available	Gold Plated Brass version available	Gold Plated Brass version available
RoHS	Compliant	Compliant	Compliant

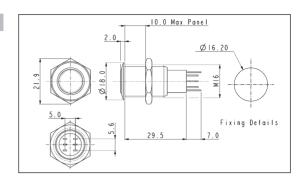
SWITCHES



Stainless Steel - Momentary

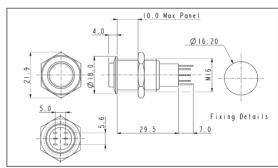


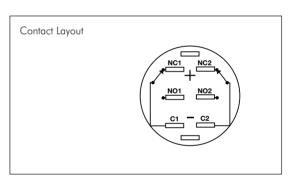
- 18mm bezel diameter
- 16mm fixing hole diameter
- D.P.C.O
- 3A, 250V





- 18mm bezel diameter
- 16mm fixing hole diameter
- D.P.C.O
- 3A, 250V





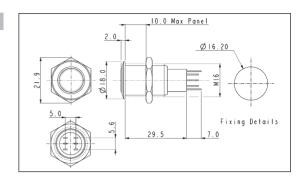
Specification	MP0045/1D0NN000	MP0045/3D0NN000	
Terminations:	Solder tags	Solder Tags	
Switching:	D.P.C.O Momentary Action	D.P.C.O Momentary Action	
Max. Rating:	3A, 250V	3A, 250V	
Contact Resistance:	50mΩ max. @ 1A, 2V	50mΩ max. @ 1A, 2V	
Insulation Resistance:	$> 10^3$ M Ω @ 500Vdc	$>$ 10 3 M Ω @ 500Vdc	
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 max.	12Nm max.	
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

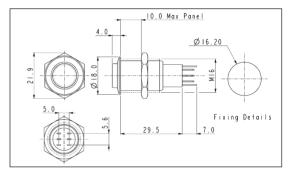


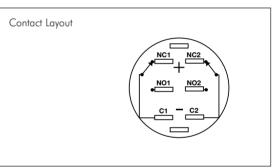
- 18mm bezel diameter
- 16mm fixing hole diameter
- D.P.C.O.
- 3A, 250Vac



PROMINENT BUTTON MP0045/3E

- 18mm bezel diameter
- 16mm fixing hole diameter
- D.P.C.O.
- 3A, 250Vac





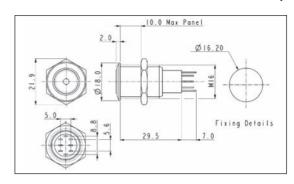
Specification	MP0045/1E0NN000	MP0045/3E0NN000
Terminations:	Solder Tags	Solder Tags
Switching:	D.P.C.O Latching Action	D.P.C.O Latching Action
Max. Rating:	3A, 250V	3A, 250V
Contact Resistance:	50mΩ max. @ 1A, 2V	50 m Ω max. @ 1A, 2V
Insulation Resistance:	$> 10^3 M\Omega$ @ 500Vdc	$>10^3$ M Ω @ 500Vdc
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 max.	12Nm max.
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Nylon Brass, Tin Plated Stainless Steel (Polished)	Nylon Brass, Tin Plated Stainless Steel (Polished)
Contacts:	Silver	Silver
Variants:	Nickel Plated Brass version details on request	Nickel Plated Brass version details on request
RoHS	Compliant	Compliant



Stainless Steel Illuminated Momentary

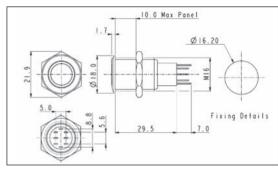


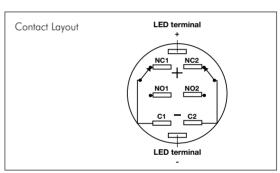
- **Dot Illuminated**
- 18mm bezel diameter
- D.P.C.O.
- 3A. 250V ac
- Red, Green, Amber or Blue Illumination
- **Separate LED Terminals**





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





Specification MP0045/1D1/Colour/Voltage

Terminations: Solder Tags Illumination: Dot

Switching: D.P.C.O. Momentary Action

3A, 250Vac Max. Switch Rating:

LEDs

Colours Green Amber Blue Red /RD Part No. /GN /BL /AM

Voltage 220Vdc 12Vdc Part No. /012/220

Contact Resistance: $50m\Omega$ max. @ 1A, 2Vdc $> 10^3~M\Omega~@~500Vac$ Insulation Resistance:

>2.0kVac Dielectric Strength:

-20 °C to +55 °C Operating Temp. Range:

Operations

Mechanical: 200,000 (min) Electrical: 30,000 (min)

Rear Nut Fixing Torque:

Materials Mouldings:

Tags: Switch Body & Button:

RoHS

Variants

12Nm

Brass, Silver Plated Stainless Steel (Polished)

Prominent Button, details on request

Compliant

MP0045/1D2/Colour/Voltage

Solder Tags

Ring

D.P.C.O. Momentary Action

3A, 250Vac

Red Green Blue Amber /RD /GN /AM /BL

220Vdc 12Vdc /012/220

 $50m\Omega$ max. @ 1A, 2Vdc $> 10^3 M\Omega$ @ 500Vac

>2.0kVac

-20 °C to +55 °C

200,000 (min) 30,000 (min)

12Nm

Brass, Silver Plated Stainless Steel (Polished)

Prominent Button, details on request

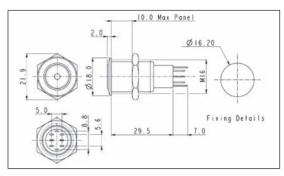
Complaint



Stainless Steel Illuminated Latching

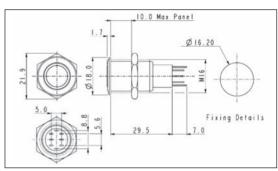


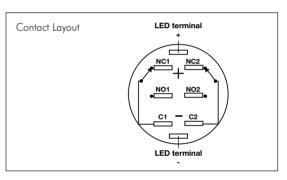
- **Dot Illuminated**
- 18mm bezel diameter
- D.P.C.O.
- 3A, 250V ac
- Red, Green, Amber or Blue Illumination
- Separate LED Terminals





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





Specification MP0045/1E1/Colour/Voltage

Terminations: Solder Tags Illumination:

Switching: D.P.C.O. Latching Action

Max. Switch Rating:

Colours Part No. Voltage Part No.

Contact Resistance: 50m Ω max. @ 1A, 2Vdc Insulation Resistance: $> 10^3 M\Omega$ @ 500Vac

>2.0kVac Dielectric Strength:

Operating Temp. Range: -20°C to +55°C

Operations Mechanical: Electrical:

Rear Nut Fixing Torque: Materials

Mouldings: Tags:

Switch Body & Button:

Variants

RoHS

3A, 250Vac

Green Amber /RD /GN

12Vdc 220Vdc /012 /220

200,000 (min) 30,000 (min)

12Nm

Nylon

Brass, Silver Plated Stainless Steel (Polished)

Prominent Button, details on request

Compliant

MP0045/1E2/Colour/Voltage

Solder Tags

D.P.C.O. Latching Action

3A, 250Vac

Green Amber Blue /RD /GN

12Vdc 220Vdc /012 /220

50mΩ max. @ 1A, 2Vdc

 $> 10^3 M\Omega$ @ 500Vac

>2.0kVac

-20°C to +55°C

200,000 (min) 30,000 (min)

12Nm

Nylon

Brass, Silver Plated Stainless Steel (Polished)

Prominent Button, details on request

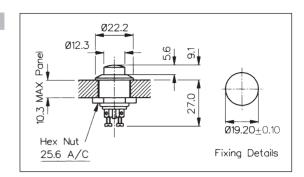
Complaint



Push Button

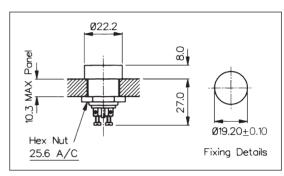


- 22mm diameter
- **Prominent Button**
- S.P. Push to Make
- **Screw Terminals**
- Brass, Chrome Plated Body, Glass Filled Nylon Button





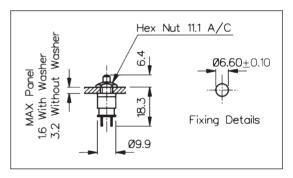
- 22mm diameter
- Recessed Button
- S.P. Push to Make
- **Screw Terminals**
- Brass, Chrome Plated Body, Glass Filled Nylon Button



REAR PANEL MOUNTING



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

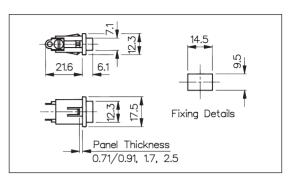


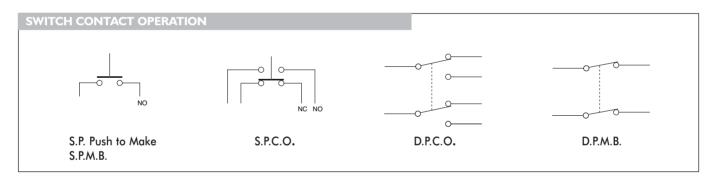
Specification	MP0012/Colour	MP0012/1/Colour	MP0016/Colour
Terminations:	Screw Terminals	Screw Terminals	Solder Tags
Switching:	S.P. Push to Make Slow Momentary Action	S.P. Push to Make Slow Momentary Action	S.P. Push to Make Slow Momentary Action
Max. Rating:	0.25A. 250Vac, 1A. 110Vac, 2A. 12Vac/dc	0.25A. 250Vac, 1A. 110Vac, 2A. 12Vac/dc	1A 28Vac/dc (non-inductive)
Contact Resistance:	<15 m Ω	<15mΩ	<15 m Ω
Insulation Resistance:	$> 10^4 M\Omega$	$>10^4 M\Omega$.	$>$ 10 4 M Ω
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
Operatiing Pressure (typ):	936gms (33ozs)	936gms (33ozs)	634gms (22ozs)
Materials: Moulding: Body:	Glass Filled Nylon Brass, Chrome Plated	Glass Filled Nylon Brass, Chrome Plated	Glass Filled Nylon Brass, Chrome Plated
Contacts/Terms:	Brass, Silver Plated	Brass, Silver Plated	Brass, Silver Plated
Variants:	Button Colour: Standard - Black, /RD (Red)	Button Colour: Standard - Black, /RD (Red)	Button Colour: Standard - Black, /RD (Red)
RoHS	Compliant	Compliant	Compliant



Push Button







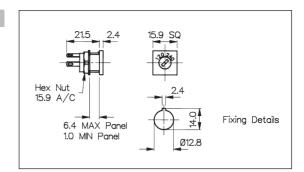
Specification	MP0022/Colour	
Terminations:	Solder Tags	
Switching:	S.P. Push to Make Slow Momentary Action	
Max. Rating:	0.25A. 250Vac, 0.5A. 110Vac, 1A. 0.1 to 28Vac/dc	
Contact Resistance:	<15mΩ	
Insulation Resistance:	$>$ 10 4 M Ω	
Dielectric Strength:	>2.5kVac	
Operating Temp. Range:	-20°C to +70°C	
Sealing:		
Materials: Moulding: Tags: Body:	Nylon Brass, Silver Plated Nylon	
Contacts/Terms:	Brass, Silver Plated	
Variants:	Button Colours: Standard - Black, /WH (White) and /RD (Red). /TERM - (Screw terminals)	
RoHS	Compliant	



Voltage Selectors

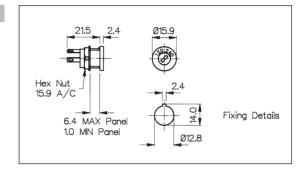


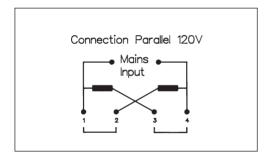
- 2.8 series tabs/solder tags
- Square Front Bezel
- 6.3A
- CSA & VDE approvals



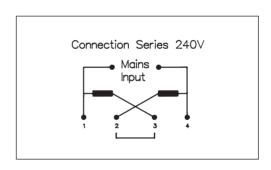


- 2.8 series tabs/Solder tags
- Round Front Bezel
- 6.3A
- CSA & VDE approvals





VS0001



Specification	VS0001	VS0002	
Max. Rating:	6.3A, 120/240V	6.3A, 120/240V	
Insulation Resistance:	>10 ⁶ 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: Tags:	Glass Filled Nylon UL94V-1 Brass, Silver Plated	Glass Filled Nylon UL94V-1 Brass, Silver Plated	
Contacts:	Copper Silver Alloy	Copper Silver Alloy	
Approvals:	\$ 4€	⊕	
Variants:	Other markings, details on request	Other markings, details on request	
RoHS		Compliant	