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. New additions of Black Anodised Ally as well as Stainless Steel are now available - and where the ultimate strength of steel is not needed, there is a brass, chrome plated alternative. Low profile style switches are also now 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.
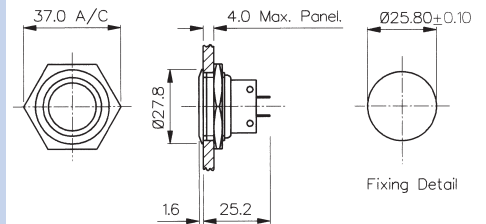
bulgin

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:	>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 Low Profile Vandal Resistant

Momentary

bulgin

Front Panel Mounting

MP0037
Sealed to IP68

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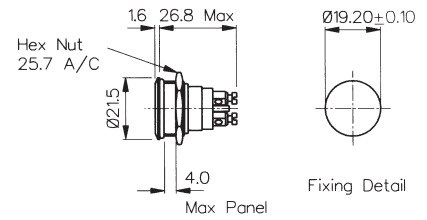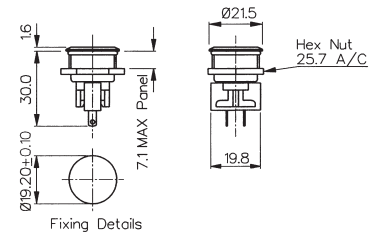- ⬡ Industry Standard Size

1.6 26.8 Max
Ø19.20+0.10
Hex Nut
25.7 A/C
Ø21.5
4.0
Max Panel
Fixing Detail

Front Panel Mounting

MP0031
Sealed to IP66

- ◌ Front Panel Sealed to IP66
- ◌ 21.5mm diameter
- ⬡ S.P.C.O. Microswitch
- ⬡ 5A, 250Vac
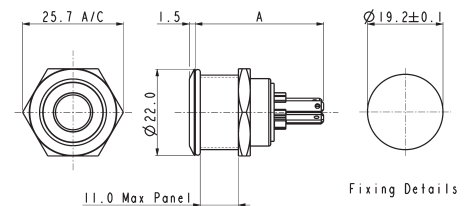
1.6
Ø21.5
Hex Nut
25.7 A/C
30.0
7.1 MAX Panel
Ø19.20+0.10
19.8
Fixing Details

Specifications	MP0037	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

Stainless Steel Illuminated Vandal Resistant
LED

bulgin

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
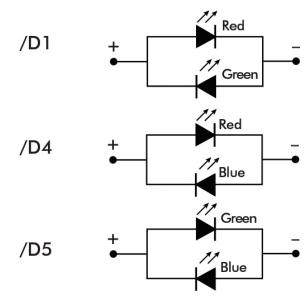- ○ Integral supply resistors
- ○ TVS protection

MPI001- front panel seal to IP66

```
25.7 A/C        1.5        A        Ø 19.2±0.1

                                    Fixing Details
11.0 Max Panel

MPI00I/TAG/COL A = 32.7
MPI00I/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

RoHS | Compliant

Dual Colour LED Configuration

```
/D1    +  ▷ Red     –
          ◁ Green

/D4    +  ▷ Red     –
          ◁ Blue

/D5    +  ▷ Green   –
          ◁ Blue
```

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
                                    
    Ø22.0                           
                                    
11.0 Max Panel          Fixing Details

MPI002/TAG/COL A = 32.7
MPI002/TERM/COL A = 31.0 MAX.
```

Specifications | MPI002/Termination/Colour/Voltage

Illumination style: Ring
Terminations: /28 (2.8mm tabs),
/TERM or /TE (screw terminals)
Switching: Single pole, push to make, tactile (momentary action)

Max. Switch Rating: 50mA, 24Vdc

LEDs (ratings @ 20mA)

Part No.	/RD	/GN	/AM	/BL	/WH	/D1	/D4	/D5	/D6
Colours	Red	Green	Amber	Blue	White	Red/Green	Red/Blue	Green/Blue	Green/White
Luminous Intensity	900mcd	2500mcd	900mcd	1500mcd	900mcd	2500mcd/5000mcd	2000mcd/850mcd	4000mcd/2000mcd	178mcd/450mcd
Forward Voltage	1.85V	3.5V	2.3V	3.5V	3.6V	2.05V/3.6V	2.0V/3.6V	3.6V/3.6V	3.4V/3.2V
Forward Current	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA
Moulding Colour	Red	Green	Amber	Blue	White	Black	Black	Black	Black

Illumination Voltage:
/no suffix No resistor fitted. An appropriate resistor must be series connected by the user. Voltages as above.
/6   6Vdc
/12   12Vdc
/24   24Vdc

Contact Resistance: <100mΩ
Insulation Resistance: >10^3 MΩ
Dielectric Strength: Contact to Panel >2.0kV
Contact to Contact 1500

Operating Temp. Range: –30°C to +70°C
Sealing (Front of panel only): Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations
Mechanical: 750,000 (min)
Electrical: 35,000 (min)

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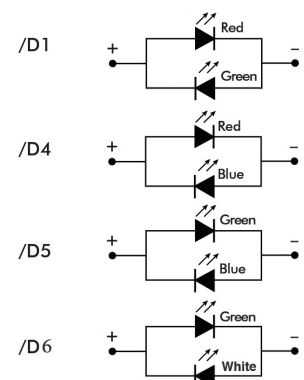Rear Nut Fixing Torque: 0.57Nm

Screw Terminal Torque: 0.2Nm Max

Materials
Switch assembly: UL94V-0 rated Polyamide (Nylon)
Tags: Copper Alloy
Terminals: Copper Alloy
Switch Body & Button: Stainless Steel
Lens and Lens Body: Polycarbonate
O ring: Nitrile
Internal seal: Silicone
Contact Plate: Gold Plated
Thread size: 18.97mm x 26TPI

RoHS 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

bulgin

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 or dual colour illumination
- Bright daylight LEDs
- Independent LED terminals
- Front and rear panel seal to IP66
- Integral supply resistors
- TVS protection

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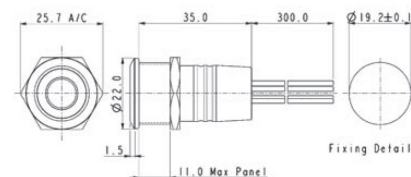
Flying lead colours: LED: red + and black –. Switch contacts: white.

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
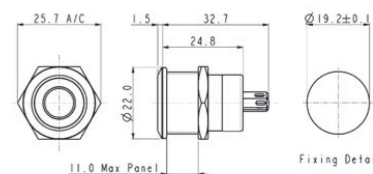
LED terminals marked + and –. Switch terminals unmarked.

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				

RoHS   Compliant   Compliant

19mm Stainless Steel Illuminated Vandal Resistant

Low Profile
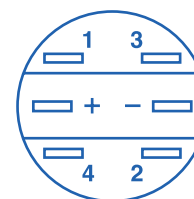
MPI005

- 22mm bezel diameter
- 19.2mm ± 0.2mm fixing hole diameter
- S.P.C.O
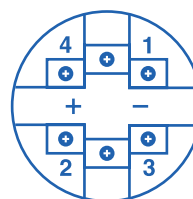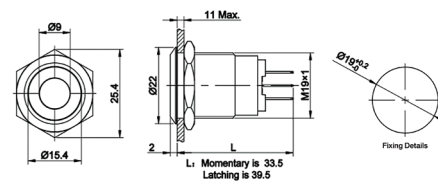
1, 2 are normally closed (NC)
3, 4 are normally opened (NO)
+, - are lamp terminals, the standard
LED terminals have no difference
of anode and cathode;.

Screw Layout

Pin Layout

Specifications	MPI005/Actuator/Terminal/Function/Material/Colour/Voltage
Terminations:	Pin Terminal or Screw Terminal
Switching:	S.P.C.O Momentary Action and Latching
Sealing:	IP65 (Momentary variants can be made to IP67 upon request)
Max. Rating:	5A @ 12VDC or 24 VDC 5A @ 125VAC 3A @ 250 VAC
Contact Resistance:	50mΩ max. @ 1A, 2V
Insulation Resistance:	>1000 MΩ @ 500Vdc
Dielectric Strength:	> 2.0kVac
Operating Temp. Range:	-25°C to +55°C
Operations Mechanical: Electrical:	1,000,000 (min) 50,000 (min)
Rear Nut Fixing Torque:	0.8Nm
Materials Mouldings: Tags/Terminations: Switch Body & Button:	Polycarbonate Brass, Gold Plated Stainless Steel / Aluminium Alloy
Contacts:	Silver
RoHS	Compliant

19mm Stainless Steel Illuminated Vandal Resistant

bulgin

| MPI | / | 005 | / | X | / | X | / | X | / | X | / | X | / | X |

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

Examples:

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

Note:

Power Symbol / Ring not available in black anodized aluminum

Low Profile Brass Chrome Plated Vandal Resistant

bulgin

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
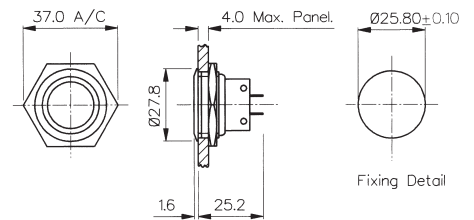
Front Panel Mounting

○ 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

16   30.0   7.1 MAX Panel   19.8

Ø19.20±0.10

Fixing Details

Front Panel Mounting

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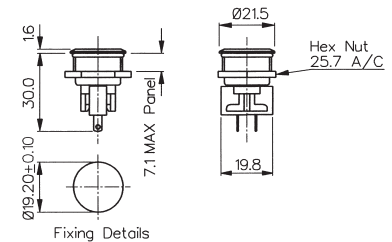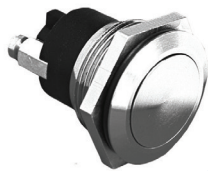
MPB037
Sealed to IP68

1.6   26.8 Max   Ø19.20±0.10

Hex Nut 25.7 A/C

Ø21.5

4.0   Fixing Detail
Max Panel
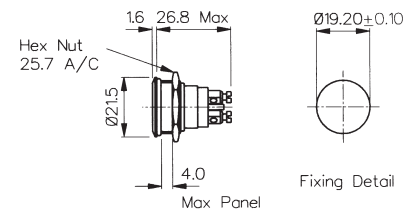
Specifications	MPB038	MPB031	MPB037
Terminations:	Solder Tags	Solder Tags	Screw Terminals
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P. Push to make Momentary action
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc	1A, 50Vac/dc
Contact Resistance:	<10mΩ	<10mΩ	<10mΩ
Insulation Resistance:	>10^3 MΩ	>10^3 MΩ	>10^5 MΩ
Dielectric Strength:	>2.0kVac	>2.0kVac	>1.0kVac
Operating Temp. Range:	–20°C to +70°C	–20°C to +70°C	–20°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)	Protection Classification: IP68 EN60529-1:1992 + A2:2013. (Micro switch not sealed) (10m for 2 weeks)
Operations Mechanical: 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

bulgin

Front Panel Mounting - Low Profile

- Front Panel Sealed to IP68
- Flush button
- 32.0mm diameter
- S.P.C.O. switching
- Momentary action
- 5A, 250Vac
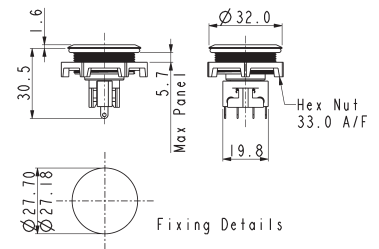
MP0050

Front Panel Mounting - Protruding Profile

- Front Panel Sealed to IP68
- Protruding button
- 32.0mm diameter
- S.P.C.O. switching
- Momentary action
- 5A, 250Vac
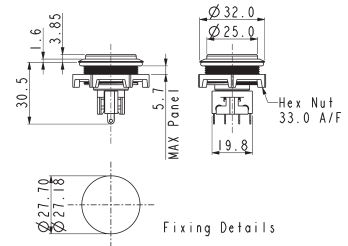
MP0050/2

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

bulgin

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
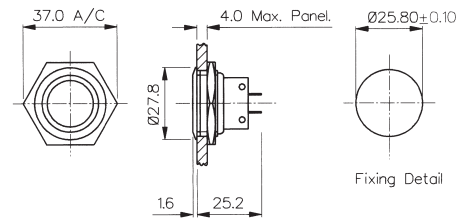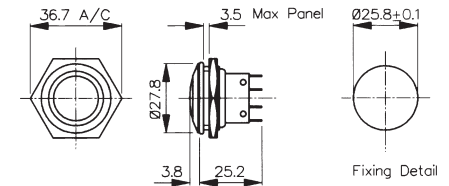
Specifications	MP0027/3	MP0038/3
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10^3 MΩ	>10^3 MΩ
Dielectric 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	0.747" x 26TPI
RoHS	Compliant	Compliant

Stainless Steel Domed Vandal Resistant

bulgin

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

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

bulgin

Front Panel Mounting

MP0027/2

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

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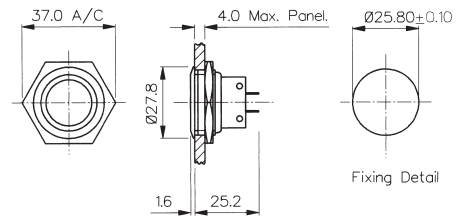
Front Panel Mounting

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 | 4.0 Max. Panel. | Ø25.80±0.10
Ø27.8
1.6 | 25.2
Fixing Detail
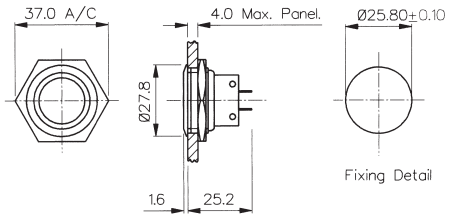
Specifications	MP0027/2	MP0038/2
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10^3 MΩ	>10^3 MΩ
Dielectric 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

bulgin

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

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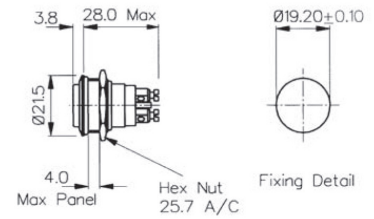
⬡ Front Panel Sealed to IP66
⬡ 21.5mm diameter
⬡ Prominent Button
⬡ S.P.C.O. Microswitch
⬡ 5A, 250Vac

MP0031/2
Sealed to IP66
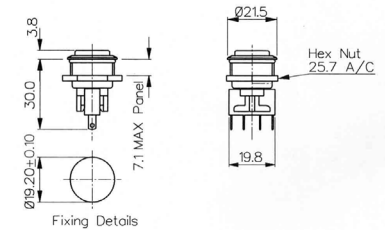
Specifications	MP0037/2	MP0031/2
Terminations:	Screw Terminals	Solder Tags
Switching:	S.P. Push to make Slow momentary action	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10^5 MΩ	>10^3 MΩ
Dielectric Strength:	>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

Front Panel Mounting

- Proud Fitting
- 22mm diameter
- S.P. Push to Make
- 1A, 50V
- Brass, Chrome Plated Body, Stainless Steel Button
- MP0033 Internally Sealed
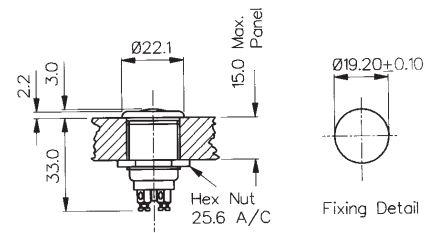
MP0013
MP0033

Front Panel Mounting

- Prominent Button
- 22mm diameter
- S.P. Push to Make
- 1A, 50V
- Brass, Chrome Plated Body, Stainless Steel Button
- MP0033/2 Internally Sealed
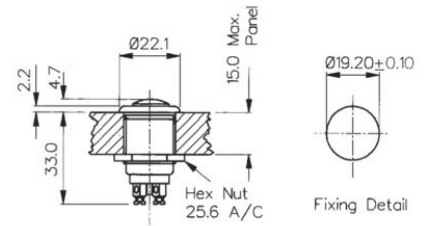
MP0013/2
MP0033/2

Specifications	MP0013, MP0033	MP0013/2, MP0033/2
Terminations:	Screw Terminals	Screw Terminals
Switching:	S.P. Push to make Slow momentary action	S.P. Push to make Slow momentary action
Max. Rating:	1A, 50Vac/dc	1A, 50Vac/dc
Contact Resistance:	<15mΩ	<15mΩ
Insulation Resistance:	>10^4 MΩ	>10^4 MΩ
Dielectric Strength:	>2.5kVac	>2.5kVac
Operating Temp. Range:	−20°C to +85°C	−20°C to +85°C
Sealing (Front of panel only):	MP0033 only - internally sealed against ingress of water and dust. (IP68 Internal Testing)	MP0033/2 only - internally sealed against ingress of water and dust. (IP68 Internal Testing)
Materials Mouldings: 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

Stainless Steel - Momentary

bulgin

Flush Profile

MP0042/1

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

6.0 Max Panel
2.0
Ø16.20
21.9
Ø18.0
M16
20.3
Fixing Details
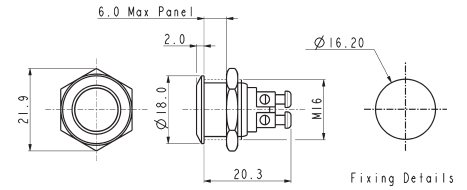
Domed Profile

MP0042/2

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

6.0 Max Panel
3.1
Ø16.20
21.9
Ø18.0
M16
20.3
Fixing Details
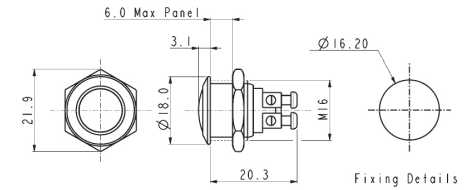
Prominent Button

MP0042/3

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

6.0 Max Panel
3.1
Ø16.20
21.9
Ø18.0
M16
20.3
Fixing Details
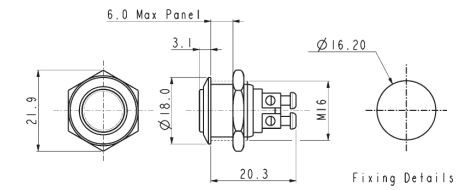
Specifications	MP0042/1	MP0042/2	MP0042/3
Terminations:	Screw Terminals	Screw Terminals	Screw Terminals
Switching:	S.P. Push to make	S.P. Push to make	S.P. Push to make
Max. Rating:	2A, 36Vdc	2A, 36Vdc	2A, 36Vdc
Contact Resistance:	50mΩ at 1A, 2V	50mΩ at 1A, 2V	50mΩ at 1A, 2V
Insulation Resistance:	>10³ MΩ @ 500Vdc	>10³ MΩ @ 500Vdc	>10³ MΩ @ 500Vdc
Dielectric Strength:	>2.0kVac	>2.0kVac	>2.0kVac
Operating Temp. Range:	−20°C to +55°C	−20°C to +55°C	−20°C to +55°C
Operations Mechanical:	1,000,000 (min)	1,000,000 (min)	1,000,000 (min)
Electrical:	100,000 (min)	100,000 (min)	100,000 (min)
Rear Nut Fixing Torque:	12Nm	12Nm	12Nm
Materials Mouldings:	Nylon	Nylon	Nylon
Tags/Terminations:	Brass, Silver Plated	Brass, Silver Plated	Brass, Silver Plated
Switch Body & Button:	Stainless Steel (Polished)	Stainless Steel (Polished)	Stainless Steel (Polished)
Contacts:	Silver	Silver	Silver
Thread size:	Gold Plated Brass version available	Gold Plated Brass version available	Gold Plated Brass version available
Sealing:	IP65	IP65	IP65
Impact Rating:	IK08	IK08	IK08
RoHS	Compliant	Compliant	Compliant

Stainless Steel - Momentary

bulgin

Low Profile

MP0045/1D

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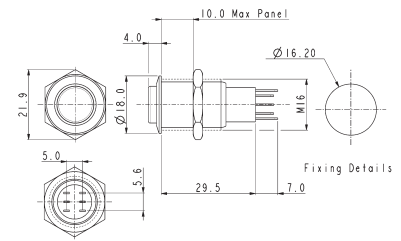
Prominent Button

MP0045/3D

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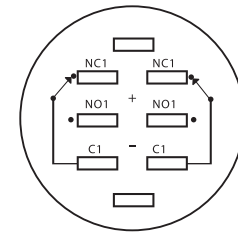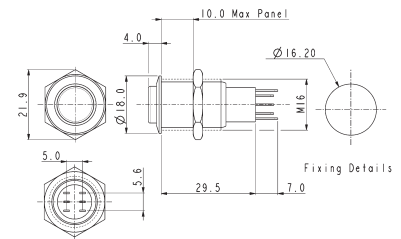
Contact Layout

Specifications	MP0045/1D0NN000/Sealing	MP0045/3D0NN000/Sealing
Terminations:	Solder tags	Solder tags
Switching:	D.P.C.O Momentary Action	D.P.C.O Momentary Action
Sealing:	IP67 IP40	IP67 IP40
Part No.	/S BLANK	/S BLANK
Max. Rating:	1A, 110Vac & 0.5A, 220Vac 1A, 12Vdc & 1A, 24Vdc	1A, 110Vac & 0.5A, 220Vac 1A, 12Vdc & 1A, 24Vdc
Contact Resistance:	50mΩ max. @ 1A, 2V	50mΩ max. @ 1A, 2V
Insulation Resistance:	>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

Low Profile

MP0045/1E

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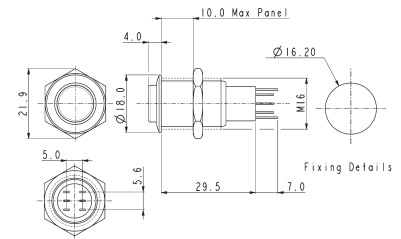
Prominent Button

MP0045/3E

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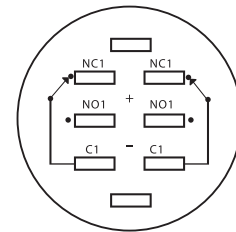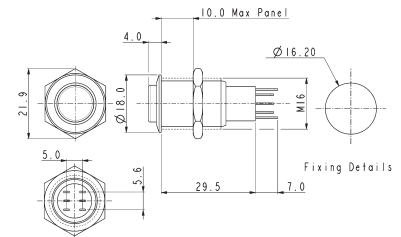
Contact Layout

Specifications	MP0045/1E0NN000/Sealing	MP0045/3E0NN000/Sealing
Terminations:	Solder Tags	Solder Tags
Switching:	D.P.C.O. - Latching Action	D.P.C.O. - Latching Action
Sealing: Part No.	IP67 IP40 /S BLANK	IP67 IP40 /S BLANK
Max. Rating:	1A, 110Vac & 0.5A, 220Vac 1A, 12Vdc & 1A, 24Vdc	1A, 110Vac & 0.5A, 220Vac 1A, 12Vdc & 1A, 24Vdc
Contact Resistance:	50mΩ max. @ 1A, 2V	50mΩ max. @ 1A, 2V
Insulation Resistance:	>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, 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

bulgin

Front Panel Mounting

MP0045/1D1

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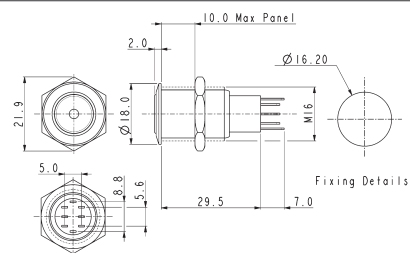
Front Panel Mounting

MP0045/1D2

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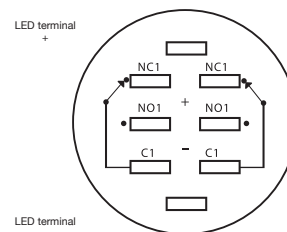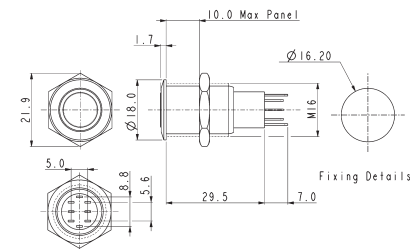
Contact Layout

Specifications	MP0045/1D1/Colour/Voltage/Sealing	MP0045/1D2/Colour/Voltage/Sealing
Terminations:	Solder Tags	Solder Tags
Illumination:	Dot	Ring
Switching:	D.P.C.O. Momentary Action	D.P.C.O. Momentary Action
Sealing: Part No.	IP67 IP40 /S BLANK	IP67 IP40 /S BLANK
Max. Switch Rating:	1A, 110Vac & 0.5A, 220Vac 1A, 12Vdc & 1A, 24Vdc	1A, 110Vac & 0.5A, 220Vac 1A, 12Vdc & 1A, 24Vdc
LEDs Colours 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

Stainless Steel Illuminated Latching

bulgin

Front Panel Mounting

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

MP0045/1E1

Front Panel Mounting

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

MP0045/1E2

Contact Layout

Specifications	MP0045/1E1/Colour/Voltage/Sealing	MP0045/1E2/Colour/Voltage/Sealing
Terminations:	Solder Tags	Solder Tags
Illumination:	Dot	Ring
Switching:	D.P.C.O. Latching Action	D.P.C.O. Latching Action
Sealing: Part No.	IP67 IP40 /S BLANK	IP67 IP40 /S BLANK
Max. Switch Rating:	1A, 110Vac & 0.5A, 220Vac 1A, 12Vdc & 1A, 24Vdc	1A, 110Vac & 0.5A, 220Vac 1A, 12Vdc & 1A, 24Vdc
LEDs Colours 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

bulgin

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

○ Front and rear panel mounted versions

○ Vandal switches available in prominent, domed and low profile

○ Various switching options such as latching,
  push on - push off, action.

○ IP66, 68 front panel sealing options

○ Dot and ring LED illuminated versions

○ Illumination voltages 6, 12 and 24V sources,

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

H8300RP - - -

Key Features

○ Momentary or latching action

○ Ratings up to 12(12) @ 250Vac

○ Single and double pole

○ Stainless steel button & bezel

○ Vandal resistant construction

○ Choice of body styles

○ 19.2mm or 22.5mm mounting holes

○ Front panel sealed to IP66

○ Raised, flat or domed actuator options

Approvals and specifications

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

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

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

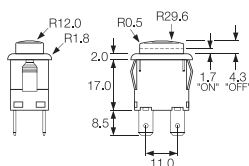3mm contact gap.
Technical data on pages 4 & 5 (switches), 6 (indicators).

Dimensions

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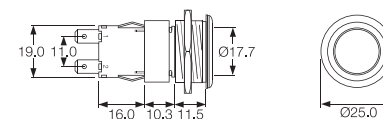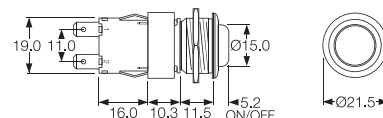
Terminal	Function	Actuator	Body Code
C H	**8300** (alternate) Single pole ON - OFF	**R** (for P body only) Raised top (stainless steel)	
K T	**8301** (momentary ON) Single pole ON - OFF		
V X	**8350** (alternate) Double pole ON - OFF	**V** Flat top (stainless steel)	**P** (for R actuator only) Stainless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

0911 Vandal Resistant Switches

bulgin

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
43.5
31.3
24.8   20.0
28.7
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

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

- Miniature, round and rectangular push button switches available

- Ratings up to 16A, 250V ac
  12(12)A 250V ac rating also available

- Latching and momentary actions

- Choice of actuators
  (custom option also available)

- Square and Round Mounting Styles

Push Button

Front Panel Mounting

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

MP0012/Col

Ø22.2
Ø12.3
5.6
9.1
10.3 MAX Panel
27.0
Hex Nut 25.6 A/C
Ø19.20±0.10
Fixing Details
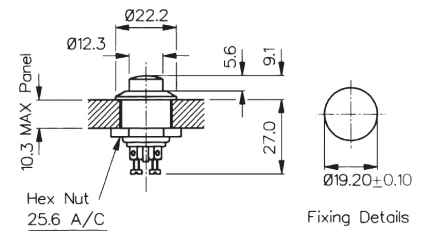
Front Panel Mounting

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

MP0012/1/Col

Ø22.2
8.0
10.3 MAX Panel
27.0
Hex Nut 25.6 A/C
Ø19.20±0.10
Fixing Details
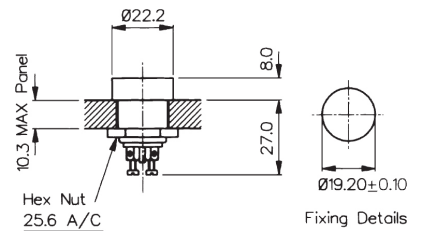
Rear Panel Mounting

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

MP0016

Hex Nut 11.1 A/C
6.4
MAX Panel 1.6 With Washer 3.2 Without Washer
18.3
Ø6.60±0.10
Ø9.9
Fixing Details
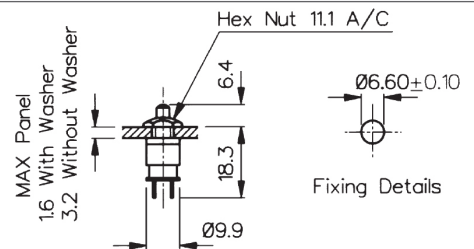
Specifications	MP0012/Colour	MP0012/1/Colour	MP0016/Colour
Terminations:	Screw Terminals	Screw Terminals	Solder Tags
Switching:	S.P. Push to Make Slow Momentary Action	S.P. Push to Make Slow Momentary Action	S.P. Push to Make Slow Momentary Action
Max. Rating:	0.25A. 250Vac, 1A. 110Vac, 2A. 12Vac/dc	0.25A. 250Vac, 1A. 110Vac, 2A. 12Vac/dc	1A 28Vac/dc (non-inductive)
Contact Resistance:	<15mΩ	<15mΩ	<15mΩ
Insulation Resistance:	>10^4 MΩ	>10^4 MΩ	>10^4 MΩ
Dielectric Strength:	>2.5kVac	>2.5kVac	>2.0kVac
Operating Temp. Range:	−20°C to +85°C	−20°C to +85°C	−20°C to +85°C
Operation Pressure (typ):	9.18 newtons	9.18 newtons	6.22 newtons
Materials Moulding: Body:	Glass Filled Nylon Brass, Brass, Chrome Plated	Glass Filled Nylon Brass, Brass, Chrome Plated	Glass Filled Nylon Brass, Brass, Chrome Plated
Contacts/Terms:	Brass, Silver Plated	Brass, Silver Plated	Brass, Silver Plated
Variant	Button Colour: Standard - Black, /RD (Red)	Button Colour: Standard - Black, /RD (Red)	Button Colour: Standard - Black, /RD (Red)
RoHS	Compliant	Compliant	Compliant

8300 Series Push Button

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

bulgin

Key Features

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

Approvals and specifications

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

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

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

UL 85°C, file E45221, CSA file LR10990

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

3mm contact gap.

Terminal	Function	Actuator	Body Code	Body Colour

Terminal

C
6.3 x 0.8 — 10.1

H
4.8 x 0.8 — 8.5

A
As "H" but right angle 4.8 x 0.8 — 7.6

K
2.8 x 0.8 — 8.5, 2.6, 1 5

T
Solder — 7.0, 2.6, 1.5

X
PCB 0.8 Sq — 7.0, 4.5

V
Dual pin PCB (Call sales for mounting dims) — 4.3, 3.7Ctrs

Function

1 2 3 4 — Approvals & ratings vary with function. Single pole switches use terminals 1 & 2 (& 3)

8300
Single Pole
ON - OFF

8301
Single Pole
ON - OFF
(momentary ON)

8303
Single Pole
ON - OFF
With Light

8304
Single Pole
ON - OFF
(momentary ON) with light

8350
Double pole
ON - OFF

8351
Double pole
ON - OFF (momentary ON)

8353
Double pole
ON - OFF
With light

8354
Double pole
ON - OFF (momentary ON)
with light

8355
Single pole
ON - OFF
Isolated light - switched
C, E & M actuators only

8356
Single pole
ON - OFF
Isolated light - unswitched
C, E & M actuators only

Actuator

A Standard actuator

H Slotted for custom caps
Slots for snap-in buttons

C Square actuator

E Radiused actuator

F Small round actuator

J Smooth curved actuator

M

D Large round actuator

All actuators except H available lit

Body Code

Panel cut-out ** | Bezel

B Standard body
12,9 — X — 21.0 — 15.0

E Softline style body with radiused bezel
12,9 — X — 21.0 — 15.0

Cut-outs must be punched in the direction of insertion

Dimensions for snap-in fixing

Panel thickness	Dimension X
0.75-1.24	19.1/19.2
1.25-1.99	19.3/19.4
2.00-3.00	19.7/19.8

X and V PCB terminals.
Additional dummy terminals may be supplied for extra support.

Body Colour

B Black

W White

Dimensions

Actuator A
Body B

4.5 "OFF"
1.7 "ON"
R0.5
2.0 17.0 8.5
11.0

Actuator J
Body E

R12.0
R1.8
R0.5 R29.6
2.0
17.0
8.5
1.7 "ON" 4.3 "OFF"
11.0
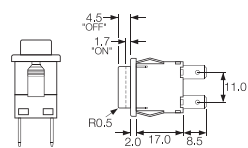
Examples

⌒ H8350AB - - -
⌒ T8350AB - - -

⌒ H8353JE - - -
⌒ T8353JE - - -

⌒ H8353EB - - -
⌒ T8353EB - - -

⌒ H8353CB - - -
⌒ T8353CB - - -

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

8200 Series Push Button

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

bulgin

Key Features

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

Approvals and specifications

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

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

3mm contact gap.

Terminal	Function	Actuator	Body Code
C	Approvals & ratings vary with function. Single pole switches use terminals 1 & 2 (& 3)	**A** Standard actuator for snap-on custom adaptors 8.0	**A** Standard body
6.3 x 0.8 10.1	**8200** Single Pole ON - OFF	**B** Flat top actuator 5.5	See dimensioned drawings for details
H 4.8 x 0.8 8.5 **A** 7.6 As "H" but right angle 4.8 x 0.8	**8201** Single Pole ON - OFF (momentary ON)	**C** Curved top actuator 8.0	**C** As standard body but with side support peg for use with M PCB terminals
K 2.6 8.5 1 5 2.8 x 0.8	**8250** Double Pole ON - OFF	**Examples of possible actuation methods** Using a Snap on adaptor	X and V PCB terminals. Additional dummy terminals may be supplied for extra support.
T 2.6 7.0 1.5 Solder **V** 3.7Ctrs 4.3 Dual pin PCB (Call sales for mounting dims)	**8251** Double Pole ON - OFF (momentary ON)	Using a Hinged Actuator	
X 4.5 7.0 PCB 0.8 Sq			

Dimensions

'A' body with 'H' 4.8 terminals

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

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

Example of possible mounting styles

Alternative Actuator

Impact washer resists damage from excessive operator force

Examples

C8250AA - - - with impact washer M1226

X8201AA - - -

K8200AA - - -

A8200AA - - -

M8200AC - - -

Example of M8200AC

7000 Series Push Button

16A 250Vac

bulgin
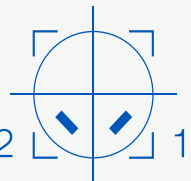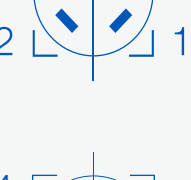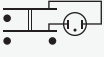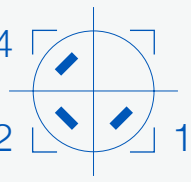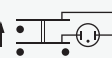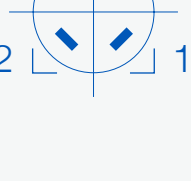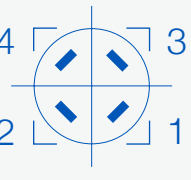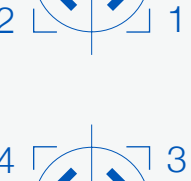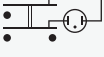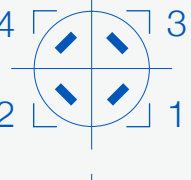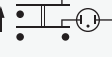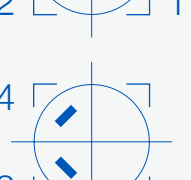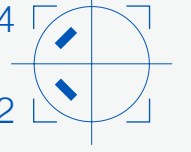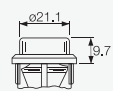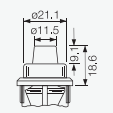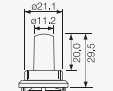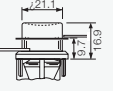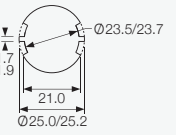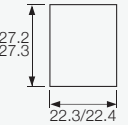
Key Features

○ Round and rectangular push button switches

○ Ratings up to 16A, 250V ac

○ Latching and momentary

○ Illuminated & non-illuminated

○ Matching indicators

○ Low profile version

○ Panel cut outs: 25.0 dia 27.2 x 22.3

Approvals and specifications

16(4)A 250Vac T125
8(8)A 250Vac T85

UL CSA 16A Non Ind, 250Vac 1hp, 125Vac 1/2hp
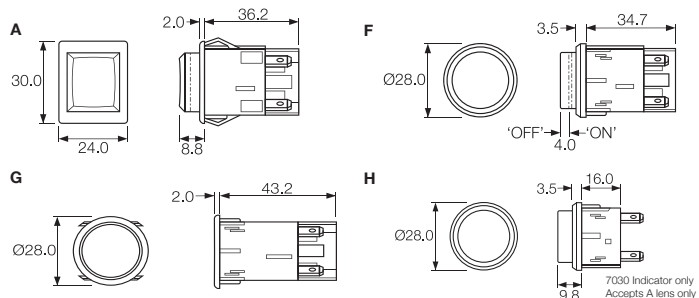UL 65°C, file no. E45221, CSA file no. LR10990

3mm contact gap.

Terminal	Function	Actuator	Body Code
C 6.3 x 0.8 9.1	Approvals & ratings vary with function Single pole switches use terminals 1 & 2 (& 3) **7000** Single Pole ON - OFF **7001** Single Pole (momentary) ON - OFF **7003** Single Pole (with light) ON - OFF **7004** Single Pole (momentary) with light ON - OFF	**A** Round actuator shown in F body ø21.1 9.7 **A** Round actuator shown in G body **B** Round actuator - medium shown in F body ø21.1 ø11.5 18.6 **C** Round actuator - long shown in F body ø21.1 ø11.2 20.0 29.5	Panel cut-outs **F H G** Body types fit either cut-out 25.0/25.2 Ø23.5/23.7 1.7 1.9 21.0 Ø25.0/25.2 **A** 27.2 27.3 22.3/22.4 Cut-outs must be punched in the direction of insertion
H 4.8 x 0.8 9.1	**7050** Double Pole ON - OFF **7051** Double Pole with light ON - OFF **7053** Double pole with light ON - OFF **7054** Double pole (momentary ON) with light ON - OFF **7030** Indicator UL E63363 CSA LR29381	**D** Round actuator - sub panel mount ø21.1 16.9 9.7 **S** Rectangular actuator Shown in "A" body N/A for 7030 19.5 8.8	

Dimensions

Panel thickness:
A - 0.8 - 2.5mm
F, G, H - 0.8 - 5.0mm

A

30.0
24.0
2.0
36.2
8.8

F

Ø28.0
3.5
34.7
'OFF' 4.0 'ON'

G

Ø28.0
2.0
43.2

H

Ø28.0
3.5
16.0
9.8

7030 Indicator only
Accepts A lens only

Examples

C7000AF - - -

C7003AF - - -

C7050SA - - -

C7053AG - - -

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

0911 Push Button Switches

0.5A 250Vac

bulgin

C0911PB - - -

C0911RB - - -

C0911KB - - -

Key Features

○ Snap action switches

○ Ratings up to 16A, 250Vac

○ Round and rectangular buttons

Approvals and specifications

16(4)A 250Vac 5E4 T85

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

Approvals apply to switch mechanism only.
μ contact gap.

Dimensions

R

23.9
31.3
43.5
24.8
10.8
28.7
15.0
20.1

P

1.7
7.7
31.3
43.5
24.8
28.7
15.0

K & N

17.8
31.3
43.5
24.8
10.9
28.7
15.0
22.0

Terminal	Function	Actuator	Body Code	Options
12.0	**0911** (momentary) ON - ON	**R** Rectangular bezel **P** Short **K** with satin chrome bezel **N** with nylon bezel	1.3 Ø12.7 11.1 Panel Cut-out Panel thickness Both nuts 2.5mm No backnut 4.0mm	Call factory for custom colours

bulgin

Key Features

○ Self wiping contacts

○ Slow make & break

○ Momentary action

○ Choice of switch circuits

○ Choice of actuators

Approvals and specifications

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

Dimensions

Dimensions (mm) Nylon S and L actuators
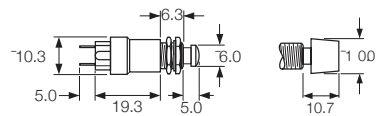
Neck thread - 40 TPI Whit. Actuator travel - 2.5 max

Stainless steel V actuator (IP66)
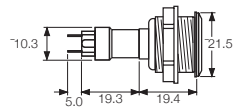
Neck thread - 26 TPI Whit. Actuator travel - 2.5 max

Terminal	Function	Actuator	Body Code	Options
T Solder 3.3 / 5.0 / 1.2	**0916** Black base SP ON - OFF (momentary) **0917** 50V only Brown base SP ON - OFF (momentary 1 side) **0918** White base SP ON - OFF (momentary OFF) **0919** Black base DP ON - OFF (momentary 1 side) **0920** White base DP ON - OFF (momentary ON)	**S** Small Actuator **L** Large Actuator **V** Vandal Resistant IP66 Flattop Stainless Steel	7.1 Panel Cut-out (L & S Actuators) Panel thickness Both nuts - 2.5mm No Backnut - 4.0 19.2 Panel Cut-out (Stainles Steel V Actuator) Panel thickness - 8.0mm	Finish Gloss finish for L and S actuators. Colour Call sales for custom colours. A full range is available for large orders.

120/140V Voltage Selector

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

VS0001

21.5 2.4 15.9 SQ
Hex Nut 15.9 A/C
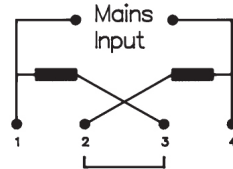6.4 MAX Panel
1.0 MIN Panel
2.4
14.0
Ø12.8
Fixing Details
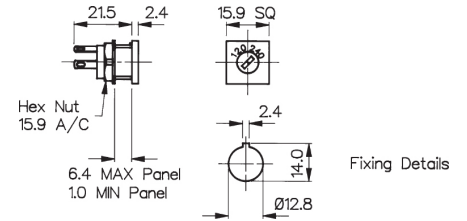
120/140V Voltage Selector

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

VS0002

21.5 2.4 Ø15.9
Hex Nut 15.9 A/C
6.4 MAX Panel
1.0 MIN Panel
2.4
14.0
Ø12.8
Fixing Details
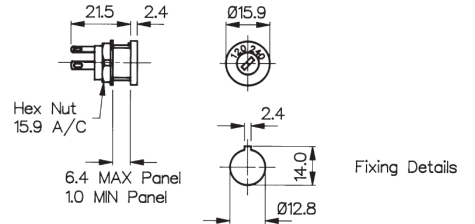
Connection Parallel 120V
Mains Input
1   2   3   4
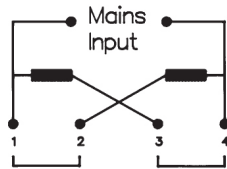
Connection Series 240V
Mains Input
1   2   3   4

Specifications	VS0001	VS0002
Max. Rating:	6.3A, 120 / 240	6.3A, 120 / 240
Insulation Resistance:	>106 MΩ	>106 MΩ
Termination:	2.8 series tabs/solder tags	2.8 series tabs/solder tags
Temperature Range:	–20°C to +85°C	–20°C to +85°C
Materials: Mouldings: 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:		
Variants:	Other markings, details on request	Other markings, details on request
RoHS		Compliant

Activated by the touch of a finger, our Capacitive Switches are ideal for many repetitive applications requiring a rugged sealed and easy to use switch solution.

- Sealed to IP68 and IP69K
- Momentary or latching functions
- Large or thin ring illumination options
- Long life operation – 50 million of cycles
- 16, 19, 22 or 25mm diameter options

- Easy to use and clean
- Extremely robust and durable – IK10 rated
- No operating force required – ideal for repetitive applications
- Activated by the touch of a finger – even with surgeon gloves
- Natural, black and red anodised options as well as 316L stainless steels

Capacitive Switches - 16mm

bulgin

16mm *Illuminated*

MC16

⬡ Illuminated
⬡ 300 mm lead

2 Max.
M16×1
Grey (Vin)
White (Vout)
Black (GND)
Ø18
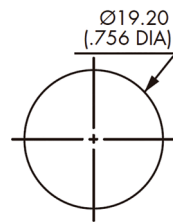4.5   22.5
Ø13.5   1.2
22

Specification — MC16

Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel
	Multi-wire leads setion 0.22mm² (length 300mm)
Maximum Current / Voltage Rating:	500mA at 12V or 24VDC
Supply Voltage	12 VDC
Contact Resistance	20mΩ
LED state for output image option	1 LED: The LED is ON when output is closed.
	2 LEDS: First colour is ON when the output is open. Second colour is ON when the output is closed.
Actuating force, typically	Zero Newton's (Touch Sensitive)
Life cycle	>50 Million

Panel Cutout Dimensions

Ø16.20
(.637 DIA)

Panel cutout: Ø16.20 (.637 DIA)

Environmental Specification

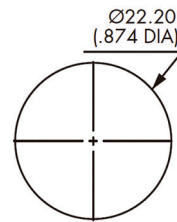|	
Sealing	IP68 (2m depth for >30mins) IP69K
Operating temperature	-25°C to +55°C
RoHS	Compliant

Circuit Specification

See wiring diagrams on Part No System page

Capacitive Switches - 19mm

bulgin

MC19

- Illuminated
- 300 mm lead

GY(Vin)
WT(Vout)
BK(GND)

Specification	**MC19**
Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel
	Multi-wire leads setion 0.22mm² (length 300mm)
Maximum Current / Voltage Rating:	500mA at 12V or 24VDC
Supply Voltage	12 VDC
Contact Resistance	20mΩ
LED state for output image option	1 LED: The LED is ON when output is closed.
	2 LEDS: First colour is ON when the output is open. Second colour is ON when the output is closed.
Actuating force, typically	Zero Newton's (Touch Sensitive)
Life cycle	>50 Million

Panel Cutout Dimensions

Ø19.20
(.756 DIA)

Panel cutout: Ø19.20 (.756 DIA)

Environmental Specification

Sealing	IP68 (2m depth for >30mins) IP69K
Operating temperature	-25°C to +55°C
RoHS	Compliant

Circuit Specification

Capacitive Switches - 22mm

bulgin

MC22

⬡ Illuminated
⬡ 300 mm lead
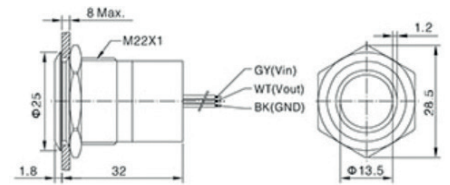
Specification — MC22

Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel
	Multi-wire leads setion 0.22mm² (length 300mm)
Maximum Current / Voltage Rating:	500mA at 12V or 24VDC
Supply Voltage	12 VDC
Contact Resistance	20mΩ
LED state for output image option	1 LED: The LED is ON when output is closed.
	2 LEDS: First colour is ON when the output is open. Second colour is ON when the output is closed.
Actuating force, typically	Zero Newton's (Touch Sensitive)
Life cycle	>50 Million

Panel Cutout Dimensions

Ø22.20 (.874 DIA)

Panel cutout: Ø22.20 (.874 DIA)

Environmental Specification

Sealing	IP68 (2m depth for >30mins) IP69K
Operating temperature	-25°C to +55°C
RoHS	Compliant

Circuit Specification

See wiring diagrams on Part No System page

Capacitive Switches - 25mm

bulgin

25mm Illuminated

MC25

⬡ Illuminated
⬡ 300 mm lead
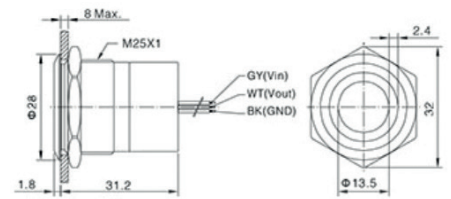
Specification — MC25

Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel
	Multi-wire leads setion 0.22mm² (length 300mm)
Maximum Current / Voltage Rating:	500mA at 12V or 24VDC
Supply Voltage	12 VDC
Contact Resistance	20mΩ
LED state for output image option	1 LED: The LED is ON when output is closed.
	2 LEDS: First colour is ON when the output is open. Second colour is ON when the output is closed.
Actuating force, typically	Zero Newton's (Touch Sensitive)
Life cycle	>50 Million

Panel Cutout Dimensions

Panel cutout: Ø25.20 (.992 DIA)

Environmental Specification

Sealing	IP68 (2m depth for >30mins) IP69K
Operating temperature	-25°C to +55°C
RoHS	Compliant

Circuit Specification

Capacitive Switches - Part No System

bulgin

Part No System

| MC | / | XX | / | X | / | X | / | X | / | X |

Series	Switch Size	Switch Function	Switch Status	Colour / Material	LED Colours
MC-Capacitive Switch	16 = 16mm	M = Momentary	O = Normally Open	B = Black Anodised	GN = GREEN
	19 = 19mm	L = Latching	C = Normally Closed	R = Red Anodised	RD = RED
	22 = 22mm			S = Stainless Steel	AM = AMBER
	25 = 25mm				RG = RED + GREEN
					GR = GREEN + RED
					Blank = Non-illuminated

Examples:

MC16MOSRD = 16mm, Stainless Steel, Momentary Normally Open, Red Illumination
MC22LOBRG = 22mm, Black Anodised, Catching Normally Open, Red and Green Ilumination

Circuit Specifications

	Wiring Diagrams			Legend
	1 LED		2 LEDS	Grey — Vin
	Output Indicator	Output Indicator	Output Indicator	Black — black GND / White — Vout
OFF-ON (momentary)				Wire colours may vary. Always refer to the label on the switch.
ON-OFF (momentary)				
OFF-ON (latching)				
ON-OFF (latching)				

Other switches are available upon request*

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

16MM Stainless Steel Non Illuminated

○ Non Illuminated
⬡ 20 cm lead
⬡ Flathead or Guided profile
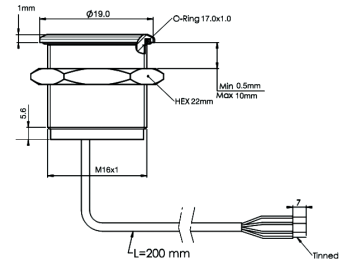
MPZ016

Specification — MPZ016

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

Environmental Specification

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

Circuit Specification

16MM Stainless Steel Non Illuminated
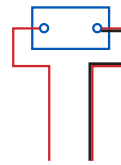
Switch voltage   24V AC/DC
Switch Current   1A Max
Power Supply   24V AC/DC

19mm Stainless Steel
Illuminated and Non Illuminated

bulgin

19MM Stainless Steel Illuminated

- Blue Illumination
- 20 cm lead
- Flathead
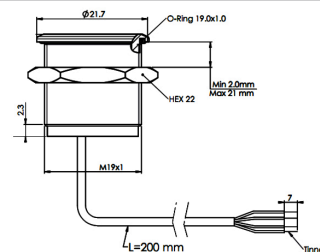
MPZI019

19MM Stainless Steel Non Illuminated
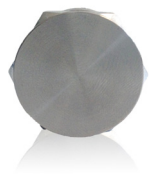
- Non Illumination
- 20 cm lead
- Flathead
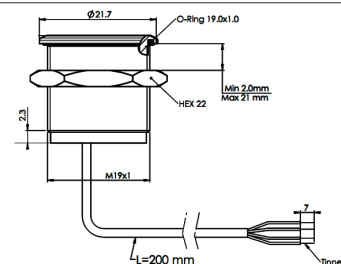
MPZ019

Specification — MPZ019, MPZI019

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

Environmental Specification

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

Circuit Specification

19MM Stainless Steel Non Illuminated
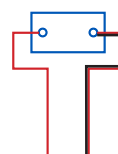
Switch voltage	24V AC/DC
Switch Current	1A Max
Power Supply	24V AC/DC
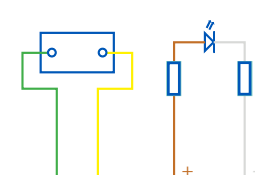
19MM Stainless Steel Illuminated

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

22MM Stainless Steel Non Illuminated

⬡ Non Illumination
⬡ 20 cm lead
⬡ Flathead
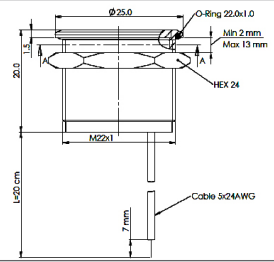
MPZ022

22MM Stainless Steel Illuminated

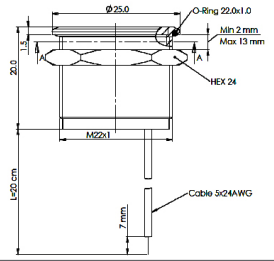⬡ Red or Green Illumination
⬡ 1 colour
⬡ 20 cm lead
⬡ Flathead
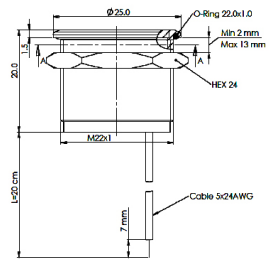
MPZI022

22MM Stainless Steel Illuminated

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

MPZI022

Specification — MPZ022, MPZI022

Specification	MPZ022, MPZI022
Type	Momentary
Material	Stainless Steel (Aluminium upon request)
Maximum Voltage	24V AC/DC
Switch Resistance "ON"	<1Ω
Switch Resistance "OFF"	5MΩ
Capacitance	100pF
Switching current (momentary)	1A Max
Switching current (prolonged)	300 mA
Switching pulse time (momentary)	up to 0.3 sec
LED Illumination	24V AC/DC
Actuating force, typically	3-5 N
Life cycle	>10 Million

Environmental Specification

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

Circuit Specification

22MM Stainless Steel Non Illuminated

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

22MM Stainless Steel Illuminated 1 colour
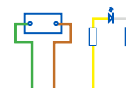
Switch Voltage	24V AC/DC
Switch Current	1A Max
Color* Illuminated	24V AC/DC
Power Supply	24 AC/DC

22MM Stainless Steel Illuminated 2 colour

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

22mm Stainless Steel Flathead

bulgin

22MM Stainless Steel Illuminated

⬡ Blue Illumination
⬡ 1 colour
⬡ 20 cm lead

○ MPZI022/L

Specification — MPZI022/L

Specification	MPZI022/L
Type	Latching Toggle
Material	Stainless Steel (Aluminium upon request)
Power Supply	24V AC/DC
Switching voltage	48V AC peak/DC
Switch Resistance "ON"	<0.7Ω
Switch Resistance "OFF"	>1000MΩ
Capacitance	<90pF
Switching current	1A Max
LED Illumination	24V AC/DC
Actuating force, typically	3-5 N
Life cycle	>10 Million

Environmental specification

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

Circuit Specification

22MM Stainless Steel Latching Toggle Illuminated

Power Supply	24V AC/DC
Switch Voltage	48V AC peak/ DC
Switch Current Max	1A Max
Colour* Illuminated	24V AC/DC

Part No System

MPZ	/	016	/	X	/	XX	/	X	/	X

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

Examples:

MPZ022/F = Non Illuminated Piezo, 22mm, Flathead
MPZI022/F/RD/24 = Illuminated Piezo, 22mm, Flathead, Red Illumination, 24 volt
MPZI022/G/BL/24/L = Illuminated Piezo, 22mm, Guided Profile, Blue Illumination, 24 volt, Latching Toggle

Circuit Specifications

Non Illuminated   One colour Illuminated   Two colour Illuminated   One colour Illuminated (Latching Toggle)

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

Power Supply   24V AC/DC
Switch Voltage   48V AC peak/ DC
Switch Current   1A Max
Colour* Illuminated   24V AC/DC

Other switches are available upon request*

Miniature Stainless Steel Vandal Resistant

Prominent Button / Flush Profile

bulgin
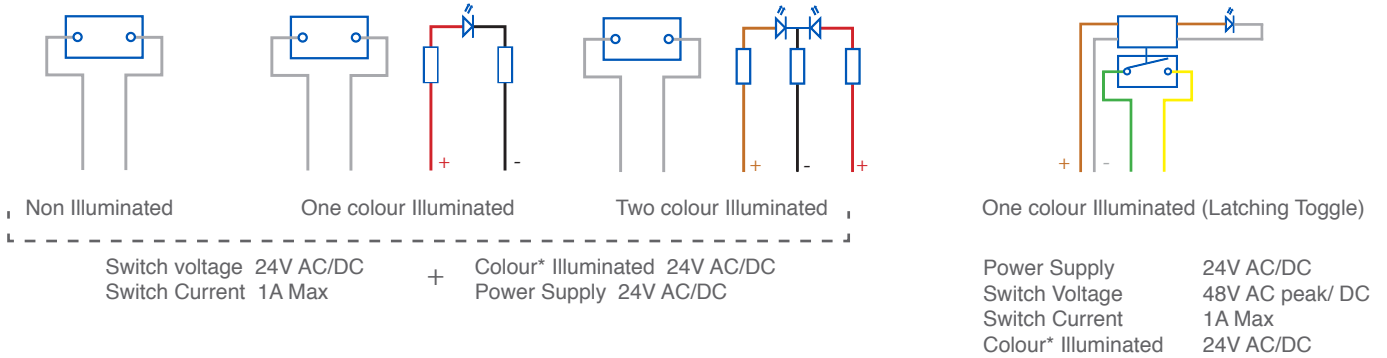
MAV0120

MAV0120

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

Prominent Profile

Flush Profile

Top view
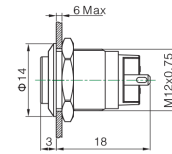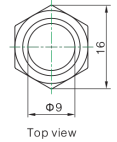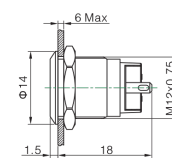
Specification	MAV0120/3	MAV0120/1
Terminations:	P - Solder Tabs	P - Solder Tabs
Switching:	S.P. Push to make	S.P. Push to make
Max Rating:	2A, 36Vdc	2A, 36Vdc
Contact Resistance:	≥50MΩ	≥50MΩ
Insulation Resistance:	≥1000MΩ	≥1000MΩ
Dielectric Strength:	1500V, AC 50Hz, 5 Secs	1500V, AC 50Hz, 5 Secs
Operating 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

Miniature Stainless Steel Illuminated Vandal Resistant

bulgin

MAV0120

MAV0120

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

Specification	**MAV0120**
Terminations:	P - Solder Tabs
Switching:	S.P. Push to make
Max Rating:	2A, 36Vdc
Profile:	Prominent /3 Flush /1
Illumination Type	/1 Dot /2 Ring

LED Ratings
Part No.

Colours	/RD	/GN	/BL	/OR	/AM
Luminous Intensity	Red	Green	Blue	Orange	Yellow
Forward Voltage	1.8V	2.8V	2.8V	1.8V	1.8V
Forward Current					
Moulding Current	15mA	15mA	15mA	15mA	15mA

Illumination Voltage	/no suffix - No resistor fitted. An Appropriate resistor must be series connected by the user. Voltages as above
	/12 12V /24 24V
Contact Resistance:	≥50MΩ
Insulation Resistance:	≥1000MΩ
Dielectric Strength:	1500V, AC 50Hz, 5 Secs
Operating Temp. Range:	*-25°C ~ +55°C

Operations

Mechanical:	500,000 (min)
Electrical:	200,000 (min)
Sealing (Front of Panel Only)	IP67
Shock Resistance	IK08
Rear Nut Fixing Torque:	0.6Nm

Materials

Mouldings:	PA
Tags/Terminations:	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

bulgin

MMP0120

MMP0120

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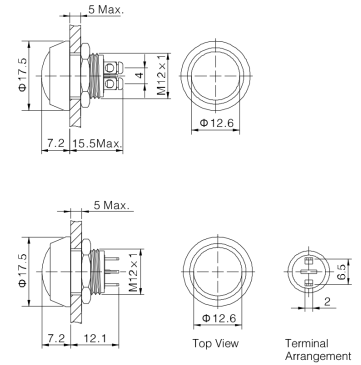
Specification	MMP0120/S	MMP0120/N
Terminations:	P - Solder Tabs S - Screw Terminal	P - Solder Tabs S - Screw Terminal
Switching:	S.P. Push to make	S.P. Push to make
Max Rating:	2A, 36Vdc	2A, 36Vdc
Contact Resistance:	≥50MΩ	≥50MΩ
Insulation Resistance:	≥1000MΩ	≥1000MΩ
Dielectric Strength:	1500V, AC 50Hz,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

Miniature Domed PBT Pushbutton

Non Illuminated - PBT

bulgin

MMP0120/A

MMP0120/A

- ○ Raised Domed Profile
- ○ PBT Material
- ○ 12mm Diameter
- ○ 2A, 36Vac
- ○ IP65 or IP67 (Front of Panel Only)
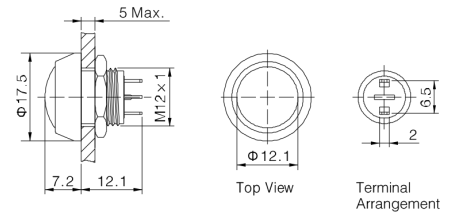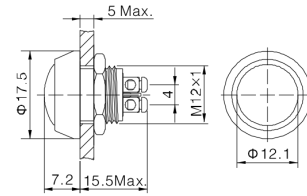
Specification	**MMP0120/A**
Terminations:	P - Solder Tabs S - Screw Terminal
Switching:	S.P. Push to make
Max Rating:	2A, 36Vdc
Contact Resistance:	≥50MΩ
Insulation Resistance:	≥1000MΩ
Dielectric Strength:	1500V, AC 50Hz, 5 Secs
Operating Temp Range:	*-25°C ~ +55°C
Operations	
Mechanical:	1,000,000 (min)
Electrical:	200,000 (min)
Sealing (Front of Panel Only)	IP65 or IP67
Shock Resistance	IK08
Rear Nut Fixing Torque:	0.3Nm
Materials	
Mouldings:	PBT
Tags/Terminations:	Brass, Silver Plated
Switch Body	/A Black Anodised
Switch Button:	/NB Nickel Plated Brass /RD RED PBT /GN GREEN PBT /BL BLUE PBT /BK BLACK PBT
Contacts:	Silver Alloy
Thread size:	M12x1
RoHS	Compliant

Top View

Terminal Arrangement

Miniature Domed Illuminated Pushbutton
Stainless Steel and PBT

bulgin

MMPI0120

MMPI0120

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

5 Max.
Φ17.5
7.4   16.6
M12X1
Φ3
Φ12.6
Top View
5.7
6.1
Terminal Arrangement
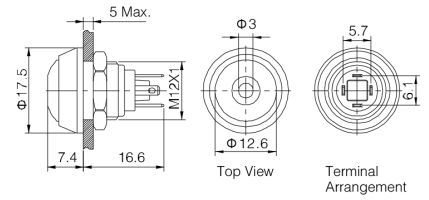
Specification — MMPI0120

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 = Stainless Steel NB = Nickel Plated Brass RD = RED PBT GN = GREEN PBT BL = BLUE PBT BK = BLACK PBT	Blank = IP65 67 = IP67 IP67 (non-illuminated only)	Blank = None RD = RED GN = GREEN BL = BLUE AM = AMBER/YELLOW OR = ORANGE	Blank = None 012 = 12V 024 = 24V Other voltages require external resistor	S = Screw Terminals P = Solder Terminals (2.0mm x 0.5mm)

Examples:

MMP0120/SSSS = 12mm, Non Illuminated, All Stainless Steel, IP65, Screw Terminals
MMP0120/ARD67/S = 12mm, Non Illuminated, Black anodized body, Red PBT button, IP67, screw terminals
MMPI0120/NNBRD012P = 12mm, Illuminated , All Nickel Plated Brass with 12V Red Dot illumination, IP65, Pin Terminals

Bulgin's range of high quality rocker switches includes a huge choice of single and double pole options available in various sizes, colours, terminations, actuator types and ratings up to 16A, 250Vac, allowing for virtually any design configuration.

○ Available types: Ultra-thin, Miniature, Twin unit, Miniature round and Standard

○ Rating from 10A, 250V ac up to 20A, 277V ac

○ Single & double pole variants available

○ Push-on, solder & PCB terminals

○ Illuminated and non-illuminated options

○ High in-rush (ON-OFF types)

○ Matching Indicators

○ Splash resistant options

○ Choice of bezel styles and sizes, panel cut-outs and actuators

○ Choice of switching circuits including 3 position

8800 Thinline Rocker Switches
10A 250Vac

bulgin

Key Features

◇ Ultra thin rocker switch

◇ Ratings up to 15A, 250Vac

◇ Single and twin gang

◇ Panel cut out:
Single 19.3 x 6.8
Twin 19.3 x 13.4

Approvals and specifications

10(6)A 250Vac T100 1E4 (10,000 Operations)
6(2)A 250Vac T100 5E4 (50,000 Operations)
Inrush rating 10/50A 1E4 (10,000 Operations)

UL CSA 15A 250Vac (Twin unit is 10A 250Vac)
UL CSA 125Vac 1/2hp
UL 100°C, file E45221, CSA file LR10990

3mm contact gap.

Terminal	Function	Rocker	Body		Body Colour	Rocker Colour
H	1a / 1 — Switches are ON when pressed over terminal 1		**A. Single pole** — Panel Cut / Bezel — 6.2 / 6.3 — 17.4 / 17.5 — X — 6.8 / 6.9 — 21.0 — 9.5 — *Optional profile for orientation		**B** Black	**B** Black
9.7	**8800** ON - OFF Single pole				**R** Red	**R** Red
T 2.6 / 8.8 / 1.5	4 / 3 / 2 / 1 — Switches are ON when pressed over terminal 1 or 3		**B. Single pole - Twin** — Panel Cut / Bezel — 9.9 / 10.0 — 17.4 / 17.5 — X — 13.4 / 13.5 — 21.0 — 15.5 — *Optional profile for orientation		**W** White	**W** White
X 4.0 / 7.5	**8800** ON - OFF Twin pole		Panel thickness: 0.75-1.2 / 1.25-1.99 / 2.00-3.00 — Dim X: 19.1/19.2 / 19.3/19.4 / 19.7/19.8 — Cut-outs must be punched in the direction of insertion			

Dimensions

8800VA (H terminals shown)
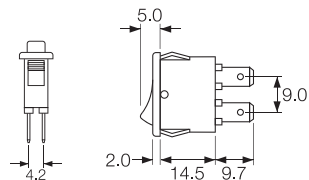
8800V/8800VA (H terminals shown)

Legend	Legend Colour	Options
— Blank	— Blank	**Finish** Matt finish only.
132	**B** Black	**Colour** Call sales for custom colours. A full range is available for large orders.
	W White	**Legend printing** Select from the examples or call sales for custom legends.

Examples

⊤ X8800VA

⊤ X8800VA
⊤ T8800VA - - -

⊤ X8800VA
⊤ T8800VA - - -

⊤ H8800V/H8800VA
⊤ T8800V/T8800VA

⊤ H8800V/H8800VA
⊤ T8800V/T8800VA

8500 Rocker Switches - Miniature

10A 250Vac Single & Double Pole

bulgin

Key Features

- Miniature rocker switch
- Ratings up to 15A, 250Vac
- Single & double pole in same body size
- Illuminated & non-illuminated
- Matching indicators
- Industry standard panel cut-out
- Rotary and push button actuator options
- Panel cut out: 19.3 x 12.9

Approvals and specifications

- 10(6)A 250Vac T125 IE4 (non lit types)
  6(4)A 250Vac T125 5E4 (50,000 Operations)
  10(6)A 250Vac T100 (lit types)

- UL CSA 15A Non Ind 250Vac, 14A Ind 250Vac, 10A 277Vac
  UL CSA 250Vac 1/2hp, 125Vac 1/4hp
  UL 105°C, (non lit) file E45221, CSA file LR10990

  3mm contact gap.

Terminal	Function	Rocker	Body	Body Colour	Rocker Colour
H 4.8 x 0.8 8.5	1a 2a / 3b 4b ON OFF Switches are ON when pressed over terminal 1	**H** Slotted for custom caps Slots for snap-in buttons	**B** Standard body with terminal barrier Panel cut out — Bezel X — 21.0 12.9 — 15.0	**B** Black	Un-Lit **B** Black
K 2.6 / 1.5 2.8 x 0.8 8.5	**8500** ON - OFF Single pole (Uses terminals 1a & 2a)	**R** Semi-rotary (not lit)		**R** Red	**R** Red
		D Paddle lever (not lit)	**BC** Body without terminal barrier Panel cut out — Bezel X — 21.0 12.9 — 15.0	**W** White	**W** White
L 3.2 2.6 2.8 x 0.8 Right angle version of K terminal available on 8500 only	**8503** ON (lit) - OFF Single pole	**V** Curved (not lit)	Dimensions for snap-in fixing Panel thickness — Dim X 0.75-1.25 — 19.1/19.2 1.25-2.00 — 19.3/19.4 2.00-3.00 — 19.7/19.8		Lit **A** Amber
	8550 ON - OFF Double pole	**V** Curved (lit)	Cut-outs must be punched in the direction of insertion		**G** Green
R 1.5 / 3.1 4.8 x 0.8 4.5	**8553** ON (lit) - OFF Double pole	**X** Two colour (not lit)			**C** Clear
		A Softline lens			**R** Red
T R1.0 / R0.8 / 3.5 8.5 +/- 0.4 Solder	**8580** **Available with H terminals only** Indicator UL/CSA E63363	**P** Push button operation (8500 only) See drawing opposite			

Dimensions

"B" body with barrier for H, T and K terminals

22.5 +/- 0.4
5.1
9.0
2.0 14.0 9.0
Terminal spacing-
Btwn 1&3 - 6.0
Btwn 2&4 - 9.5
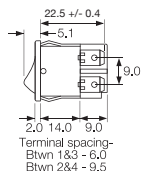
"BC" body w/o barrier primarily for L or R terminals (can be used for all terminals)

6.0
9.5

16.0
5.1
9.0
2.0 14.0
4.5
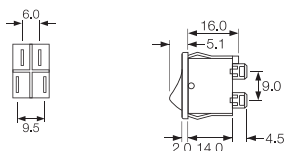
'PO' Actuator and body - push button function (8500 only)

20.5 max
23.2 max
12.7
9.5

12.0
8.0
18.0
6.0
23.3

Insert Colour	Lamp Voltage	Legend	Legend Colour	Options
X Rocker Only	**—** Blank	**—** Blank	**—** Blank	**Finish** Matt finish only.
R Red	**2** 125V Neon	**076**	**B** Black	**Colour** Call sales for custom colours. A full range is available for large orders.
W White	**3** 250V Neon		**W** White	**Legend printing** Select from the examples or call sales for custom legends.
— Leave blank for other Rocker types	**7** 12V Filament			**Lamp voltage** Call sales for details of available voltages.
	8 24V Filament			**Protective cover L167** Snaps on to bodies with V or X style rockers and A lens. This reduces panel thickness by 0.8mm.

Examples

⊓ H8500VB - - -
⊓ T8500VB - - -

⊓ H8550VB - - -
⊓ T8550VB - - -

⊓ H8550HB - - -
⊓ T8550HB - - -

⊓ H8550XB - - -
⊓ T8550XB - - -

H8550RB Semi-rotary A splash proofing option

⊓H8500PO - - -
Pushbutton option

⊓ H8553VB - - -
⊓ T8553VB - - -

⊓H8580AB - - -

8600 Rocker Switches - Miniature
10A 250Vac Single & Double Pole

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Key Features

- Miniature rocker switch
- Ratings up to 16A, 250Vac
- Single & double pole
- ON/OFF, C/O, biased and centre off switching
- Push on, solder and PCB terminals

- Illuminated and non illuminated
- Matching indicators
- Panel cut out
  single: 19.3 x 12.9
  double: 19.3 x 21.9

Approvals and specifications

15 10(4)A 250Vac T90 (unless noted below)

UL CSA See ratings below
UL 65°C, file E45221, CSA file LR10990

3mm contact gap except where marked μ.

Terminal	Function	15	Rocker	Body	Body Colour
H 4.8 x 0.8 7.4	Approvals & ratings vary with function `1 2 3`	ON OFF Switches are ON when pressed over terminal 3 `1 2 3 / 4 5 6`	**V** Curved	**B** Single pole	**B** Black
	8600 10(4)A 16A 250V, 10A 277V 1/2HP 277V,1/4HP 125V ON - OFF	**8650** 10(4)A 10A 277V 1/2HP 277V,1/4HP 125V ON - OFF	**V** Curved (lit)	Panel cut out / Bezel 21.0 12.9 / 15.0 Single Pole dimensions for snap-in fixing Panel thickness / Dim X 0.75-1.25 / 19.1/19.2 1.25-1.99 / 19.3/19.4 2.00-3.00 / 19.7/19.8	
	8601 6(1)A 16A 250V, 6A 277V ON - OFF (momentary ON)	**8651** 6(1)A 6A 277V ON - OFF (momentary ON)	**F** Flat Indicator only (Single pole)		**R** Red
T Ø2.2 / 6.4 3.5 x 0.8 Solder	**8602** 10A 6A 277V ON - OFF (momentary OFF)	**8652** 10(4)A 6A 277V ON - OFF (momentary OFF)		**B** (Double Pole) with terminal barrier	
	N/A ON - OFF Lit	**8653** 10(4)A 6A 277V ON - OFF Lit		**BC** (Double Pole) w/o terminal barrier Panel cut out / Bezel 21.0 21.9 / 24.0 Double Pole dimensions for snap-in fixing Panel thickness / Dim X 0.75-1.24 / 19.1/19.2 1.25-1.99 / 19.3/19.4 2.00-3.00 / 19.7/19.8	**W** White
X 3.7 / 5.3 PCB 0.8Sq	**8610** 6(1)A 10A 277V 1/2HP 277V,1/4HP 125V ON - ON	**8660** 6(1)A 10A 277V 1/2HP 277V,1/4HP 125V ON - ON		Cut-outs must be punched in the direction of insertion	
Double Pole switches with "X" terminals are supplied without terminal barriers	**8611** 6A 277V ON - ON (momentary 1 side)	**8661** 6A 277V ON - ON (momentary 1 side)			
	8620 μ ON - OFF - ON	**8670 μ** ON - OFF - ON			
	8630 6(1)A UL E63363 CSA LR29381 KEMA-KUER Indicators	**N/A**			

Dimensions

Single pole

2.0
12.5
5,8
7.0
7.0

Terminals shown
are "H" 4.8 push on type

Double pole

2.0
19.8
to barrier
12.5
5,8
7.0
7.0
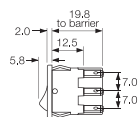
Terminal spacing
10.2 between pole centres

Rocker Colour	Lamp Voltage	Legend	Legend Colour	Options
Un-Lit	—	—	—	**Finish** Matt finish only.
B Black	Blank	Blank	Blank	**Colour** Call sales for custom colours. A full range is available for large orders.
R Red				
W White	**2** 125V Neon	**076**	**B** Black	**Legend printing** Select from the examples or call sales for custom legend.
Lit				**Lamp voltage** Call sales for details of available voltages.
A Amber	**3** 250V Neon		**W** White	**Blanking plate A8634FB** Dummy unit to fill unused panel holes. Single pole size only.
G Green				**Protective covers** L167 for SP L180 for DP Snap on to bodies with V rocker or F lens. This reduces panel thickness by 2.2mm.
C Clear	**7** 12V Filament			
R Red				
	8 24V Filament			**Single Pole options** Most switches shown can have single pole switching in double pole bodies.

Examples

H8600VB - - -
T8600VB - - -

H8600VB - - -
T8600VB - - -

H8630FB - - -
T8630FB - - -

H8650VB - - -
T8650VB - - -

H8660VB - - -
T8660VB - - -

H8653VB - - -
T8653VB - - -

8620 & 8670 Rocker Switches

3 Positions - 10A 250Vac

bulgin

H8620VB ---
T8620VB ---

H8670VB ---
T8670VB ---

Key Features

○ 3 position miniature rocker switch

○ Ratings up to 15A, 250Vac

○ Single & double pole

○ Centre off switching

○ Push on, solder and PCB terminals

○ Matching indicators

○ Panel cut out:
single: 19.3 x 12.9
double: 19.3 x 21.9

Approvals and specifications

10(4)A 250Vac T90

UL CSA 15A 277Vac (Single pole)
UL CSA 250Vac 1/2hp (Single pole)
UL CSA 125Vac 1/4hp (Single pole)
UL CSA 10A 277Vac (Double pole)
UL CSA 277Vac 1/2hp (Single & Double pole)
UL 90°C, file E45221, CSA file LR10990

μ contact gap.

Terminal	Function	Rocker	Body		Body Colour	Rocker Colour
H 4.8 x 0.8 8.5	**8620** ON - OFF - ON Single pole	**V** Curved	**B** Single pole Panel thickness 0.75-1.24 1.25-1.99 2.00-3.00	Dim X 19.1/19.2 19.3/19.4 19.7/19.8	**B** Black	Lit (DP) **A** Amber **C** Clear **G** Green **R** Red
T Ø2.15 6.4 Solder	**8670** ON - OFF - ON Double pole	**H** Slotted for actuator (8620 only)	**B** Single pole - Twin Panel thickness 0.75-1.24 1.25-1.99 2.00-3.00	Dim X 19.1/19.2 19.3/19.4 19.7/19.8	**R** Red **W** White	Lit (DP) **B** Black **R** Red **W** White
X 4.0 8.0 PCB 0.8sq Double pole switches with X terminals are supplied without terminal barriers			*Cut-outs must be punched in the direction of insertion*			

Dimensions

Single pole

Double pole

Double pole

2.0
15.0
8.5
7.0 Ctrs
14.0

2.0
15.0
8.9
7.0 Ctrs
10.2 Ctrs
14.0

2.0
15.0
8.0
7.0 Ctrs
10.2 Ctrs
14.0

Terminals shown
are "H" 4.8 push on type

Terminal spacing
10.2 between pole centres

Terminal spacing
10.2 between pole centres

Lamp Voltage	Legend	Legend Colour	Options
— Blank	— Blank	— Blank	**Finish** Matt finish only.
2 125V Neon	**076**	**B** Black	**Colour** Call sales for custom colours. A full range is available for large orders. **Legend printing** Select from the examples or call sales for custom legend. **Lamp voltage** Call sales for details of available voltages.
3 250V Neon		**W** White	**Blanking plate A8634FB** Dummy unit to fill unused panel holes. Single pole size only. **Protective covers** **L167 for SP** **L180 for DP** Snap on to bodies with V rocker or F lens. This reduces panel thickness by 2.2mm.
7 12V Filament			
8 24V Filament			**Single Pole options** Most switches shown can have single pole switching in double pole bodies.

bulgin

C1250AP ---

C1250AN ---

Key Features

- Standard rocker switch
- Double pole in single pole body
- Snap in or sub panel mount
- Integral terminal barrier
- Push on or PCB terminals

- Panel cut out:
  27.2 x 12.4 (snap in)
  26.3 x 12.4 (sub panel mount)

Terminal	Function	Rocker	Body		Body Colour	Rocker Colour
C 6.3 x 0.8 9.0	**2a — 2** **1a — 1** On when pressed over terminal 1 **1250** **2a — 2** **1a — 1** ON - OFF Double pole Poles are 9.0mm between centres.	**A** Curved Shown in N body	**N** Panel cut-out / Bezel Sub-panel 26.1/26.2 12.4/12.5 Facia 23.8 nom 13.1 nom R3.5 13.0 29.5 Panel thickness / Dim X 0.75-1.24 / 26.1/26.2 1.25-1.99 / 26.3/26.4 2.00-3.00 / 26.7/26.8		**B** Black **W** White	**B** Black **W** White
X 5.2 / 9.0 PCB 0.8sq (N body only)	**1a — 1** On when pressed over terminal 1 **1250SP** **1a — 1** ON - OFF Single pole	Shown in P body	**P** Panel cut out / Bezel 27.2/27.3 12.4/12.5 29.5 15.0 Panel thickness 0.75-3.00 Cut-outs must be punched in the direction of insertion			**G** Grey

Approvals and specifications
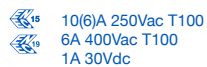
15 — 10(6)A 250Vac T100
19 — 6A 400Vac T100
1A 30Vdc

UL — UL CSA 10A 250Vac
UL CSA 16A 250Vac Resistive
UL CSA 125Vac 1/2hp
UL CSA 1A 30Vdc
UL 100°C, file E45221, CSA file LR10990

3mm contact gap

Dimensions

1250AN
(C terminals shown)

Terminals shown
are "H" 4.8 push on type

1250AN
(X terminals shown)

Terminal spacing
10.2 between pole centres

1250AP
(C terminals shown)

Terminal spacing
10.2 between pole centres
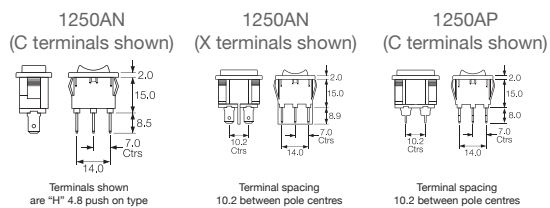
Legend

—
Blank

085

Legend Colour

—
Blank

B
Black

W
White

Options

Finish
Matt finish only.

Colour
Call sales for custom colours.
A full range is available for large orders.

Legend printing
Select from the examples or call sales for custom legend.

6000 SP Splash Resistant Rocker Switches
16A 250Vac

bulgin

Key Features

○ Ratings up to 20A, 277Vac

○ Positive switch action

○ Distinctive styling

○ Illuminated & nonilluminated

○ Single pole

○ Panel cut out: 30.1 x 11.1mm

Approvals and specifications

European 16(4)A 250Vac T125, 10A 400Vac T125

UL = 20A 277Vac, 1 1/2HP 250Vac 1HP 125Vac
CSA = 20A 277Vac, 1HP 125Vac, 1/2HP 125Vac

3mm contact gap with Positive Break switching. Call factory for IP details.

Vary with Function

Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminals 3.

Terminal	Function	Rocker	Body	Body Colour	Rocker Colour	Lamp Voltage
C 6.3 x 0.8 9.7	**6000** ON - OFF	**A** Softline Matt	**L** Panel cut-out ** Bezel R2,0 30.0/30.1 11.0/11.1 14,0 31,5 Cut-outs must be punched in the direction of insertion	**B** Black	Lit (DP) **A** Amber	— Blank
	6001 ON - OFF (momentary ON)			**W** White	**C** Clear	**2** 125V Neon
H 4.8 x 0.8 9.7	**6002** ON - OFF (momentary OFF)	**A** Softline Matt			**G** Green	**3** 250V Neon
	6003 ON - OFF Lit				**R** Red	**5** 12Vdc LED (P Rocker)
S Screw & Clamp N/A for assemblies with 3 terminals 9.7	**6008** ON - OFF Lit (Unswitched neutral)	**P** Lit window Matt			Lit (DP) **B** Black	**6** 24Vdc LED (P Rocker)
	6009 ON - OFF (momentary ON) Lit (Unswitched neutral)				**R** Red	**7** 12V Filament
	6010 ON - ON				**W** White	**8** 24Vdc Filament
	6011 ON - ON (momentary 1 side)					

Integral Splash Resistance

Current carrying parts are protected from moisture.
Droplets which may enter the switch are channelled out through ports in the switch body.
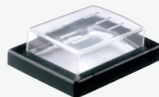For IP65 see options below

Dimensions

2.0 — 30.0
8.0
10.0
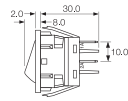
Panel thickness
L 0.75 to 2.5mm
** For cut-out details on momentary switches call sales

Legend	Legend Colour	Options
— Blank	— Blank	**G74** Protective Cover
1223	**B** Black	**Finish** Matt is standard.
	W White	**Colour** Call sales for custom colours. A full range is available for large orders.

Finish
Matt is standard.

Colour
Call sales for custom colours.
A full range is available for large orders.

Legend printing
Select from the examples or call sales for custom legends.

Lamp voltage
Call sales for details.

Protective cover
A snap on cover is available (add G after body code), this reduces panel thickness by 2mm.

Panel sealing washer W46 is available, this reduces panel thickness by 1.2mm.

Covers are not suitable for momentary types. For all options call the factory

Examples

⌶ C6000AL - - -   ⌶C6000AL - - -   ⌶ C6010AL - - -   ⌶ C6003AL - - -   ⌶C6003PL - - -   ⌶C6030AL - - -

6050 DP Splash Resistant Switches

& Twin Switches - 16A 250Vac
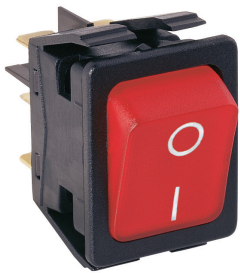
bulgin

Key Features

○ Ratings up to 20A, 277V ac

○ Positive switch action

○ Distinctive styling

○ Illuminated & non-illuminated

○ Double pole

○ DC LED Illumination Avaliable

○ Panel cut out: 30.1 x 22.2mm

Approvals and specifications

◈ European 16(4)A 250Vac T125, 10A 400Vac T125

UL CSA (except 6054 & 6055 Swtiches) 20A 277Vac, 250Vac 11/2hp, 125Vac 1hp

UL 100°C, file E45221, CSA file LR10990

3mm contact gap with Positive Break switching.

Terminal	Function		Rocker	Body	Body Colour
C 9.7 6.3 x 0.8	**6050** ON - OFF **6051** ON - OFF (momentary ON) **6052** ON - OFF (momentary OFF) **6053** ON - OFF Lit **6054** ON - OFF (momentary ON) Lit **6055** ON - OFF (Single pole) (momentary ON) Lit **6056** ON - OFF (Single pole) Isolated light **6057** ON - OFF Isolated light **6058** ON - OFF (Single pole) Lit **6059** ON - OFF (Single pole) (momentary ON) Isolated light	**6060** ON - ON **6061** ON - ON (momentary 1 side) **6062** 2 Circuit ON - ON (In house tests only) **6066** ON - ON (Single pole) Isolated light **6067** ON - ON Lit **6068** ON - ON 1 pole ON - OFF Lit 1 pole **6090** ON - OFF 1 pole ON - OFF Lit 1 pole **6091** ON - OFF (momentary ON) Lit **6092** ON - OFF 1 pole ON - ON 1 pole Lit Circuits are Double Pole unless described otherwise	**A** Softline Matt **A** Softline Matt **P** Lit window Matt Lit window	**L** Double Pole Panel cut-out ** Bezel 22.1/22.2 R2.0 25.0 30.0/30.1 31.5 **L** Twin units Contact sales for information on splash resistance and IP ratings 22.1/22.2 R2.0 25.0 30.0/30.1 31.5	Lit (DP) **A** Amber **C** Clear **G** Green **R** Red Un-Lit (DP) **B** Black **R** Red **W** White
H 9.7 4.8 x 0.8					
S 9.7 Screw & Clamp N/A for assemblies with 3 terminals					
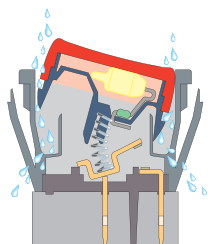
Integral Splash Resistance

Current carrying parts are protected from moisture. Droplets which may enter the switch are channelled out through ports in the switch body.

For IP65 see options below

Dimensions

2.0 — 30.0 — 8.0 — 10.0
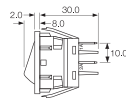
Panel thickness
L 0.75 to 2.5mm
** For cut-out details on momentary switches call sales

Terminal spacing - Poles 10.5 between centres

Vary with Function

Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminals 3 & 6.

| 1 | 2 | 3 |
| 4 | 5 | 6 |

Rocker Colour	Lamp Voltage	Legend	Legend Colour	Options
B Black	**—** Blank	**—** Blank	**—** Blank	**G74** Protective Cover
R Red	**2** 125V Neon	**1223**	**B** Black	**Finish** Matt is standard.
W White	**3** 250V Neon			**Colour** Call sales for custom colours. A full range is available for large orders.
	5 12Vdc LED (P Rocker)		**W** White	**Legend printing** Select from the examples or call sales for custom legends.
	6 24Vdc LED (P Rocker)			**Protective cover** The 6050 series is a water through design. For a higher level of sealing, a snap on cover is available (add G after body code). This reduces panel thickness by 1mm.
	7 12V Filament			Panel sealing washer W42 is available. This reduces panel thickness by 1.00mm. Covers are not suitable for momentary types.
	8 24Vdc Filament			**IP Ratings** Call the sales for details. **Terminal Link P1067** connects the poles of a double pole switch or twin unit. # Mounting orientation may affect IP rating.

Examples

C6050AL - - -	C6053AL - - -	C6053PL - - -	C6000A/C6000AL	C6003P/C6003PL	C6003P/C6030AL

1500 Standard & 1300 High Inrush Switches
150A to EN61058-1 and 16A 250Vac

bulgin

Key Features

○ Standard rocker switch
○ Non-illuminated
○ 150A inrush
○ Choice of switching circuits including 3 position
○ Choice of bezel styles
○ Choice of panel cut outs

○ Matching indicator
○ Single pole
○ Splash resistant option
○ DC LED Illumination Avaliable for "P" Rocker
○ Panel cut out 'A' style: 27.3 x 12.3mm

Approvals and specifications

1500 Series 16(4)A 250Vac T125

UL CSA 16A Non Ind 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp, (3 posn) 250Vac 1/2hp, 125Vac 1/4hp
1330 36Vdc 14A
1350 72 Vdc 7A
1500 & 1510 14 Vdc 10A
UL 85°C, file E45221, CSA file LR10990

In house test:
10A 24Vdc—Indicative rating only

1300 series 16(6)A 250Vac T125 5E4 (50,000 Ops.)
150A Inrush to EN61058-1

Terminal	Function	Rocker	Body	Finish	Body Colour
C 9.1 — 6.3 x 0.8	**Standard 1500** ON - OFF	**A** Softline Matt	**A** 27.2/27.3, 12.2/12.3, 30.2, 14.0 Gloss or Matt	**M** Matt	**B** Black
H 9.1 — 4.8 x 0.8*	**1501** HP rating N/A ON - OFF (momentary ON)	**B** Splash resistant (with Arcshield) Matt	**B** 30.0/30.1, 11.0/11.1, R3.5, 33.4, 14.0 Matt only	**G** Gloss	**R** Red
K 2.0, 9.1, 1.2 — 2.8 x 0.8*	**1502** HP rating N/A ON - OFF (momentary OFF)	**H** Slotted (for custom Adaptors) not momentary	**L** 30.0/30.1, 11.0/11.1, R1.0, 32.0, 14.0 Matt only	Applies to both Rocker & Body	**W** White
T 7.0, Ø2.1 — Solder	**1510 μ** HP rating N/A ON - ON	**V** Curved Matt or gloss	**Q** 28.2/28.3, 11.5/11.6, R1.6, 30.2, 14.0 Gloss or matt		
U 3.5, Ø2.1 — Right angle "T" solder terminal	**1511 μ** HP rating N/A ON - ON (momentary 1 side)	**W** Splash resistant (with Arcshield) Matt	**R** 28.5/28.6, 14.0/14.1, 31.5, 17.0 Matt only		
X 3.2, Ø2.1 — PCB 0.8Sq* *N/A for 1300 series	**1520 μ** 125V & 250V 1/2 HP H terminal rated T100 only ON - OFF - ON	**X** Two colour Matt ON - OFF only (not momentary)	**T** 28.2/28.3, 11.5/11.6, R1.6, 30.2, 14.0 Matt only		
	1521 μ HP rating N/A H terminal rated T100 only ON - OFF - ON (momentary 1 side)	**F** Flat lens Gloss (0430 only)			
	1522 μ HP rating N/A H terminal rated T100 only ON - OFF - ON (momentary 2 sides)	**A** Softline lens Matt (0430 only) as F but with raised profile			
	0430 HP rating N/A H terminal rated T100 only				
	1484 In-house tested to 10(3)A 250Vac 3 position selective				
	1487 In-house tested to 10(3)A 250Vac 3 position selective				
	High Inrush 1300 ON - OFF				

Panel cut-out / Bezel
Cut-outs must be punched in the direction of insertion

UL CSA 20A 250Vac 1hp, 125Vac 1/2hp
UL 85°C, file E45221, CSA file LR10990

In house test:
20A 24Vdc—Indicative rating only

The 1500 & 1300 switch range are capable
of reaching in excess of 300K cycles

BioCote antimicrobial additive. Independently
verified to ISO22196:2007.

3mm contact gap except if marked μ.

Dimensions

2.0 — 25.3 Max
— 7.6
13.2
9.2

Panel thickness
A,Q 0.75 to 3.3mm
L,B,T 0.75 to 2.5mm
R 0.75 to 3.0mm

* For cut-out details
on momentary switches
call sales

Splash Resistance

1500 W and B splash resistant options
Feather edge seals and a close fitting collar protect current
carrying parts from moisture.
B option has Hytrel collar/seals for enhanced protection.

1300 High inrush, positive break switching
The 1300 series mechanism ensures contact welds formed at
switch-on are positively separated by the plunger tube acting directly
on the step in the moving contact.

Rocker Colour	Lamp Voltage	Insert Colour	Legend	Legend Colour	Options
Un-Lit	— Blank	— Blank	— Blank	— Blank	**Finish** Matt is standard.
B Black	**2** 125V Neon	**R** Red	**602A**	**B** Black	**Colour** Call sales for custom colours. A full range is available for large orders.
R Red	**3** 250V Neon				**Legend printing** Select from the examples or call sales for custom legends.
W White	**7** 12V Filament	**W** White		**W** White	**Lamp voltage** Call sales for details.
Lit	**8** 24Vdc Filament				**Blanking plates A0434 - -** Dummy units to fill unused panel holes.
A Amber					**Protective cover** Snaps on to A, L, Q or T bodies (add G after body code in cat no.), this reduces panel thickness by 1mm.
C Clear					
G Green					Panel sealing washer W46 is available for the same body sizes, this reduces panel thickness by a further 0.8mm. Covers are not suitable for momentary types.
R Red					For all options call sales.

Examples

C1500AR - - -
T1500AR - - -

C1500AL - - -
T1500AL - - -

C1500XL - - -
T1500XL - - -

C1510AL - - -
T1510AL - - -

C1520AL - - -
T1520AL - - -

C0430AL - - -
T0430AL - - -

5500 Lit Rocker Series

10A 250Vac

bulgin

Key Features

- Standard rocker switch
- Illuminated
- Choice of switching circuits
- Choice of bezel styles
- Choice of panel cut outs
- Matching indicator
- Single pole
- Splash resistant option
- Panel cut out 'A' style:

Approvals and specifications

16(4)A 250Vac T85
10(3)A 250Vac T100, (12A 250Vac T125 for P rocker only)

UL CSA 15A 250Vac, CSA 16A Non Ind 250Vac
UL CSA 250Vac 1hp, 125Vac 1/2hp
UL 85°C, file E45221, CSA file LR10990

µ contact gap.

For Twin units repeat the order details for both the left and right sides.

Terminal	Function	Rocker	Body		Body Colour	Rocker Colour
C 6.3 x 0.8 9.1	Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminal 3	**A** Softline (Matt only)	**A** Panel Cut - outs 27.2 27.3 12.2/12.3	Bezel 30.2 14.0	**B** Black	Un-Lit **B** Black
H 4.8 x 0.8 9.1	**5500 µ** ON - OFF Single pole		**B** 30.0 30.1 11.0/11.1	R3.5 33 14.0	**W** White	**R** Red
T Ø2.1 Solder 7.0	**5503 µ** ON - OFF Lit Switched neutral	**P** Lit window (Matt only)	**L** 30.0 30.1 11.0/11.1	R1.0 31.9 14.0		**W** White Lit
	5508 µ ON - OFF Lit Unswitched neutral		**Q** 28.2 28.3 11.5/11.6	R1.6 30.2 14.0		**A** Amber
			R 28.5 28.6 14.0/14.1	31.5 17.0		**C** Clear
			T 28.2 28.3 11.5/11.6	R1.6 30.2 14.0		**G** Green **R** Red

Dimensions

Panel thickness

A,Q	0.75 to 3.3mm
L,B,T	0.75 to 2.5mm
R	0.75 to 3.0mm

2.0

28.6 Max

7.6

9.2

13.2

Terminal spacing -
Poles 10.8 between centres (twin units)

Twin units

Two single switches or a switch and an indicator light can be assembled side by side in one double pole body.
For 5500 range panel cut-out details (L, B and T) call sales.

For twin units the first set of order format details refer to the left hand unit, when looking at the front of the assembly. (This has terminal numbers 1, 2 & 3)

Lamp Voltage	Legend	Legend Colour	Options
— Blank	— Blank	— Blank	**Finish** Matt is standard. **Colour** Call factory for custom colours. A full range is available for large orders. **Legend printing** Select from the examples or call factory for custom legends. **Lamp voltage** Call factory for details. **Blanking plate A0434 - - (SP) A0494 - - (DP)** Dummy units to fill unused panel holes. **Protective cover** Snaps on to A, L, Q or T bodies (add G after body in cat no.), this reduces panel thickness by 1.00mm.
2 125V Neon	**602A**	**B** Black	
3 250V Neon			
5 12Vdc LED (P Rocker) IF = 20-30mA		**W** White	
6 24Vdc LED (P Rocker) IF = 20-30mA			
7 12V Filament			Panel sealing washers W46 (Single Pole) and W42 (Double Pole) are available for these body types, this reduces panel thickness by 2mm.
8 24Vdc Filament			*For all options call the factory.*

Examples

C5503AL - - -   C5500AL - - -   C5503PL - - -   C5503A/C5430AL   C5503A/C5503AL   C5503P/C5503PL

Key Features

○ Twin unit rocker switch

○ Choice of switching circuits including 3 position

○ Push-on, solder and PCB terminals

○ Choice of bezel styles

○ Choice of panel cut outs

○ Matching indicator

○ Single pole switches

○ Splash resistant option

○ Panel cut out 'A' style: 27.2 x 22.3mm

Approvals and Specifications

16(4)A 250Vac T125

UL CSA 16A 250Vac
UL CSA (2 posn) 250Vac 1hp, 125Vac 1/2hp, (3 posn) 250 Vac 1/2hp, 125Vac 1/4hp
UL 85°C, file E45221, CSA file LR10990

For versions with High Inrush or for 50,000 operations,
3mm contact gap except where marked µ.

Terminal	Function	Rocker	Body		Finish	Body Colour	Rocker Colour
C 6.3 x 0.8, 9.1	Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminal 1 or 4	**A** Softline (Matt only)	**Panel Cut - outs** / **Bezel** **A** 27.2/27.3, 22.3/22.4, Gloss or Matt / 30.2, 25.0		**M** Matt	**B** Black	Un-Lit
H 4.8 x 0.8, 9.1	**1500** ON - OFF	**B** Softline (Matt only)	**B** 30.0/30.1, 22.1/22.2, Matt only / R3.5, 33.4, 25.0		**G** Gloss	**W** White	**B** Black
T Ø2.1, Solder, 7.0	**1510 µ** ON - ON	**W** Softline (Matt only)	**L** 30.0/30.1, 22.1/22.2, Matt only / R1.0, 32.0, 25.0		Applies to both Rocker & Body		**R** Red
K 2.0, 1.2, 9.1	**1520 µ** ON - OFF - ON	**X** Softline (Matt only)	**Q** 28.2/28.3, 22.3/22.4, Gloss or matt / R1.6, 30.2, 25.0				**W** White
X 4.0, 9.1	**0430** Indicator	**A** Softline (Matt only)	**R** 28.4/28.5, 23.0/25.4, Matt only / 33.2, 28.9				Lit
			T 28.2/28.3, 22.3/22.4, Matt only / R1.6, 30.2, 25.0				**A** Amber
							C Clear
							G Green
							R Red

Dimensions

Panel thickness

A,Q	0.75 to 3.3mm
L,B,T	0.75 to 2.5mm
R	0.75 to 3.0mm

2.0
25.3 Max
7.6
13.2
9.2

Call sales for terminal spacing details

Twin units

Two single switches or a switch and an indicator light can be assembled side by side in one double pole body.
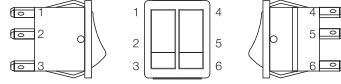
For twin units the first set of order format details refer to the left hand unit, when looking at the front of the assembly.
(This has terminal numbers 1, 2 & 3)

Splash Resistant
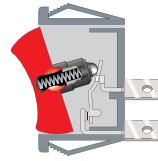
Feather edge seals and a close fitting collar protect current carrying parts from moisture.

B option has Hytrel collar/seals for enhanced protection.

Insert Colour	Lamp Voltage	Legend	Legend Colour	Options
— Blank	— Blank	— Blank	— Blank	**Finish** Matt is standard. **Colour** Call factory for custom colours. A full range is available for large orders. **Legend printing** Select from the examples or call factory for custom legends. **Lamp voltage** Call factory for details.
R Red	**2** 125V Neon	**602A**	**B** Black	
W White	**3** 250V Neon		**W** White	
	5 12Vdc LED (P Rocker)			
	6 24Vdc LED (P Rocker)			
	7 12V Filament			
	8 24Vdc Filament			

Examples

C1500A/C1500AL C1500A/C0430AL C1500X/C1500XL C1520A/C1510AL C1500A/C1520AL C0430A/C0430AL

Key Features

- Standard rocker switch
- 1350/53 high inrush
- Choice of switching circuits including 3 position
- Push-on, solder and PCB terminals
- Choice of bezel styles
- Choice of panel cut outs
- Matching indicator
- Double pole
- Splash resistant option
- Panel cut out 'A' style: 27.2 x 22.3mm

Approvals and specifications

- 1550 Series 16(4)A 250Vac T125

- UL CSA 16A 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp, 1350 72 Vdc 7A (3 posn) 250 Vac 1/2hp, 125Vac 1/4hp. UL 85°C, file E45221, CSA file LR10990.

   In house test:
   10A 24Vdc—Indicative rating only. NB Types fitted with Neon will not illuminate for low DC voltage applications.

- 1350 series 16(4)A 250Vac T85 1E4 (10,000 Ops.)
   1330 series 16(6)A 250Vac T125 5E4 (50,000 Ops.)
   150A Inrush to EN61058-1.

Terminal	Function		Rocker	Body

Terminal

C
9.1
6.3 x 0.8

H
9.1
4.8 x 0.8*

K
2.0 9.1 1.2
2.8 x 0.8*

T
7.0
Ø2.1
Solder

U
3.2
Ø2.1
Right angle "T" solder terminal

X
3.2
Ø2.1
PCB 0.8Sq*

Function

Standard 1550
ON - OFF

1551
HP rating N/A
ON - OFF
(momentary ON)

1552
HP rating N/A
ON - OFF
(momentary OFF)

1553
Not W, X or B rocker
ON - OFF
Lit

1560 μ
ON - ON

1561 μ
HP rating N/A
ON - ON
(Momentary 1 Side)

1562 μ
In house tests only
2 Circuit
ON - ON

1570 μ
125V & 250V 1/2 HP
H terminal rated T100 only H terminal rated T100 only
ON - OFF - ON

1571 μ
HP rating N/A
H terminal rated T100 only
ON - OFF - ON
(momentary 1 side)

1572 μ
HP rating N/A
H terminal rated T100 only
ON - OFF - ON
(momentary 2 sides)

0480
X terminal N/A

High Inrush 1350
Not W, X or B rocker
ON - OFF

1353
Not W, X or B rocker
ON - OFF
Lit

Rocker

A Softline Matt

B Splash resistant Softline

V Curved
Matt or Gloss   Gloss only
Lit (not momentary)

W Splash resistant Curved

P Lit window Matt
Lit (not momentary)

X Two colour Matt
(ON OFF only - not momentary)

R Round

F Flat Lens Gloss (0480)
Top View

A Softline lens Matt
(0480 only) as F but with raised profile

Body

Panel cut-out   Bezel
Cut-outs must be punched in the direction of insertion

A
27.2 27.3 22.3/22.4   30.2 25.0 Gloss or Matt

B
R3.5 30.0 30.1 22.1/22.2   33.4 25.0 Matt only

L
R1.0 30.0 30.1 22.1/22.2   32.0 25.0 Matt only

Q
R1.6 28.2 28.3 22.3/22.4   30.2 25.0 Gloss or matt

R
28.4 28.5 23.0/25.4   33.2 28.9 Matt only

T
R1.6 28.2 28.3 22.3/22.4   30.2 25.0 Matt only

Approvals and specifications (continued)

UL CSA 20A 250Vac 1hp, 125Vac 1/2hp.
UL 72Vdc 7A, 36Vdc 14A.
UL 85°C, file E45221, CSA file LR10990.

In house test:
20A 24Vdc—Indicative rating only

3mm contact gap except if marked µ.

Splash Resistance
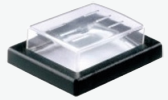
1300 High inrush, positive break switching
The 1300 series mechanism ensures contact welds formed at
switch-on are positively separated by the plunger tube acting directly
on the step in the moving contact.

Dimensions
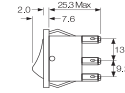
25.3 Max
2.0
7.6
13.2
9.2

Panel thickness
A,Q 0.75 to 3.3mm
L,B,T 0.75 to 2.5mm
R 0.75 to 3.0mm

* For cut-out details
on momentary switches
call sales

Finish	Body Colour	Rocker Colour	Insert Colour	Lamp Voltage	Legend	Legend Colour	Options
M Matt	**B** Black	Un-Lit **B** Black	— Blank	— Blank	— Blank	— Blank	**Finish** Matt is standard.
		R Red	**R** Red	**2** 125V Neon			**Colour** Call sales for custom colours. A full range is available for large orders.
G Gloss	**W** White	**W** White	**W** White	**3** 250V Neon	**602A**	**B** Black	**Legend printing** Select from the examples or call sales for custom legends.
		Lit **A** Amber		**5** 12Vdc LED (P Rocker)			**Lamp voltage** Call sales for details.
Applies to both Rocker & Body		**G** Green		**6** 24Vdc LED (P Rocker)		**W** White	**Blanking plates A0494** Dummy units to fill unused panel holes.
		C Clear		**7** 12V Filament			**Protective cover** Snaps on to A, L, Q or T bodies (add G after body in cat no). This reduces panel thickness by 1mm.
		R Red		**8** 24Vdc Filament			

Panel sealing washer W42 is available for the above body sizes. This reduces panel thickness by a further 1.00mm.
Covers are not suitable for momentary types.

For all options call sales.

Examples

C1350AL - - -

C1550XL - - -

C1553PL - - -

C1553RA ---
Shown with M614 bezel cover

Optional snap-in M441 barrier

C1553AA with M616 guard Cut-out 22.0/22.1 x 29.4/29.5 Guard accepts "A" body only

C0480RA ---
Shown with M614 bezel cover

C0480AL - - -

1550 Standard & 1350 High Inrush Switches
150A to EN61058-1 and 16A 250Vac250Vac

bulgin

Key Features

- Standard rocker switch
- 1350/53 high inrush
- Choice of switching circuits including 3 position
- Push-on, solder and PCB terminals
- Choice of bezel styles
- Choice of panel cut outs
- Matching indicator
- Double pole
- Option with guard & cover
- DC LED Illumination Available for "P" Rocker
- Bezel size 'G' style 32.0 x 25.0

Approvals and specifications

1550 Series 16(4)A 250Vac T125

UL CSA 16A 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp,
(3 posn) 250 Vac 1/2hp, 125Vac 1/4hp.
UL 85°C, file E45221, CSA file LR10990.

In house test:
10A 24Vdc—Indicative rating only

1350 Series

UL CSA 20A 250Vac 1hp, 125Vac 1/2hp.
UL 72Vdc 7A, 36Vdc 14A, UL 85°C, file E45221,
CSA file LR10990.

Terminal	Function	Rocker	Body	Finish	Body Colour	Rocker Colour
C 6.3 x 0.8 9.1	**Standard** **1550** **1551** HP rating N/A	ON - OFF	**B** Panel cut-out	Bezel Cut-outs must be punched in the direction of insertion	**M** Matt	**B** Black	Un-Lit **B** Black
H 4.8 x 0.8* 9.1	**1552** HP rating N/A	ON - OFF (momentary ON) ON - OFF (momentary OFF)	30.0 30.1 22.1/22.2 32.0 25.0 Matt only				**R** Red
K 2.8 x 0.8*	**1553** Not W, X or B rocker	ON - OFF Lit	**L** 28.2 28.3 22.1/22.2 32.0 25.0 Matt only	**G** Gloss	**W** White	**W** White
T Ø2.1 7.0 Solder	**1560 μ** **1561 μ** HP rating N/A **1562 μ** In house tests only	ON - ON ON - ON (Momentary 1 Side) ON - ON 2 Circuit		Applies to both Rocker & Body		Lit **A** Amber
U Ø2.1 3.2 Right angle T Solder (Not DP)	**1570 μ** 125V & 250V 1/2 HP H terminal rated T100 only **1571 μ** HP rating N/A H terminal rated T100 only **1572 μ** HP rating N/A H terminal rated T100 only	ON - OFF - ON ON - OFF - ON (momentary 1 side) ON - OFF - ON (momentary 2 sides)				**G** Green **C** Clear
X Ø2.1 3.2 PCB 0.8Sq* *Contact sales for details on 1350 series	**High Inrush** **1350** Not W, X or B rocker **1353** Not W, X or B rocker	ON - OFF ON - OFF Lit				**R** Red

Rocker column:
A Softline Matt

V Curved
Matt or Gloss — Gloss only — Lit (not momentary)

P Lit window Matt — Lit (not momentary)

Splash Resistance

1350 High inrush, positive break switching
The 1350 series mechanism ensures contact welds formed at
switch-on are positively separated by the plunger tube acting directly on the step in the moving contact.

In house test:
20A 24Vdc—Indicative rating only

3mm contact gap except if marked μ.

Dimensions
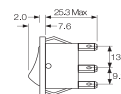
Panel thickness
G, H   0.75 to 2.5mm

Terminal spacing - Poles 10.2 between centres

* For cut-out details
on momentary switches
call sales

Insert Colour	Lamp Voltage	Legend	Legend Colour	Options
— Blank	— Blank	— Blank	— Blank	**Finish** Matt is standard.
R Red	**2** 125V Neon	**602A**	**B** Black	**Colour** Call sales for custom colours. A full range is available for large orders.
W White	**3** 250V Neon		**W** White	**Legend printing** Select from the examples or call sales for custom legends.
	5 12Vdc LED (P Rocker)			**Lamp voltage** Call sales for details.
	6 24Vdc LED (P Rocker)			
	7 12V Filament			
	8 24Vdc Filament			

Examples

C1553AH - - -

C1550AH - - -

R13 Round Rocker Switches
10A 250Vac

bulgin

Key Features

○ Miniature round rocker switch

○ Ratings up to 10A, 250Vac

○ Single & double pole

○ Illuminated & nonilluminated, neon and LED

○ Choice of actuators

○ Matching indicator

○ Panel cut out: 20.2 dia.

Approvals and specifications

SP 10(4)A 250Vac T85 1E4

DP 10(4)A 250Vac T85 1E4

UL CSA SP 16A 125Vac & 10A 250Vac
UL CSA DP 16A 125Vac, 10A 250Vac, 10A 28Vdc
UL 85°C, file E67774(S), CSA file LR45128

RoHS compliant
Single pole has μ contact gap.

Special products
Are made to order and can be supplied with a range of body and rocker / lens colours, print & lamp voltage.

Dimensions

2.2
Ø20.2
0.9

Snap fixing into
2.0 to 3.0mm panels

19.0
2.2
4.2
Ø20.2
0.9

Snap fixing into
0.7 to 3.0mm panels

Single Pole

Ø23.0
2.0
5.5
14.5
8.1

Ø17.0
4.8x0.8

Double Pole

Ø23.5
2.0
5.5
15.8
8.5
5.0

Ø17.0
7.8
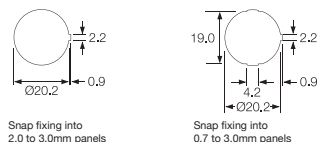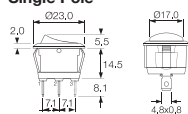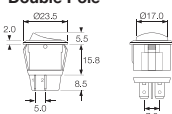
Protective cover L188

Snaps on to bodies (not R13 211 or R13 112LP), this reduces maximum acceptable panel thickness to 2.4mm.

Examples

R13 112B NAA

R13 112A AAA

R13 112A2 ---

R13	/112	/A	/B	/B	/3	/2	/602A	/W	/L188
Series	Type	Function	Body Colour	Rocker Colour	Insert Colour	Lamp Voltage	Legend	Legend Colour	Legend Colour

Product details

SP ON - OFF μ
Cat no.
R13 112A AAA

SP ON - OFF μ
Lit 230V
Cat no.
R13 112B NAC

SP ON - OFF μ
Bright colour ON signal
Cat no.
R13 112A2 - -

Ø17.0
Ø23.0
2.0
5.5
14.5
8.1
4.8x0.8
7.1
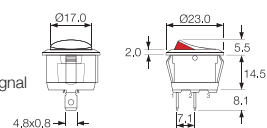
SP ON - OFF μ
Cat no.
R13 112A AAB

SP ON - ON μ
Cat no.
R13 112C AAA

SP ON - OFF μ
Lit Window
Cat no.
R13 112B2 - -

Ø17.0
Ø23.0
2.0
5.5
14.5
8.1
4.8x0.8
7.1 7.1

SP ON - OFF μ
Lit 230V
Cat no.
R13 112B NAA

SP ON - OFF - ON μ
Cat no.
R13 112D AAA

3−
3+
12
SP ON - OFF μ
Paddle tip has red LED
Cat no.
R13 112LP - -

Ø15.0
Ø23.0
2.0
10.0
14.5
8.1
4.8x0.8
7.1 7.1

SP ON - OFF μ
Lit 230V
Cat no.
R13 112B NAB

SP ON - OFF μ
(Momentary ON)
Cat no.
R13 208F AAA*

1   3
Indicator light
Cat no.
R9 92B - - -

Ø17.0
Ø23.0
2.0
4.0
14.5
8.1
4.8x0.8
14.2

DP ON - OFF
Cat no.
R13 244A AAA
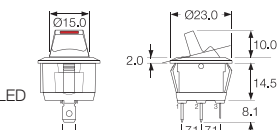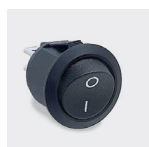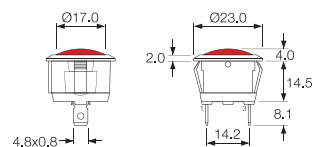
DP ON - OFF
Lit 230V
Cat no.
R13 244B NAA

bulgin

Well known for their quality and reliability, Bulgin's toggle switches are cost effective solutions to many existing applications. These switches offer features at an attractive price point often well below that of the existing competition.

- Nylon and Metal switch variants

- Multiple Lever Options

- Ratings up to 20A, 250V ac - 277V ac

- IP67 panel seal versions, supplied complete with gaskets (3900 Series – All Variants)

- Single and double pole

- Choice of circuit options including 3 position and momentary

- Mounting hole: 12.2mm diameter.

- Sealing accessories available

- Quick Connect, Solder, Screw and PCB Termination Options

3900 Metal Toggle Switches

16A 250Vac - IP67 Sealed Versions

bulgin

Key Features

○ Metal toggle switches

○ Ratings up to 20A, 277V ac

○ Single and double pole

○ Choice of circuits including 3 position and momentary

○ Sealed version supplied complete with gaskets

○ Panel seal version to IP67

○ 6.3mm terminals

○ Guard option

Terminal	Function		Actuator	Body	Options

Terminal

C

6.3 x 0.8 — 10.5

S

Screw & Clamp — 10.5

T

Ø 3.1
Solder — 10.5

Function

Single Pole

3900
ON - OFF

3901
ON - OFF
(momentary ON)

3902
ON - OFF
(momentary OFF)

3910
ON - ON

3911
ON - ON
(momentary 1 side)

3920
ON - OFF - ON µ

3921
ON - OFF - ON µ
(momentary 1 side)

3922
ON - OFF - ON µ
(momentary 2 sides)

Double Pole

3950
ON - OFF

3951
ON - OFF
(momentary ON)

3952
ON - OFF
(momentary OFF)

3960
ON - ON

3961
ON - ON
(momentary 1 side)

3970
ON - OFF - ON µ

3971
ON - OFF - ON µ
(momentary 1 side)

3972
ON - OFF - ON µ
(momentary 2 sides)

Actuator

A
10.0
Metal
Metal toggle finish is nickel plate

B
17.5
Metal
Metal toggle finish is nickel plate

D
25.4

E
38.1
Metal toggle finish is nickel plate

F
17.5
Metal toggle finish is nickel plate

Body

A Single pole
Thread: 15/32" x 32TPI
Keyway
17.5 10.5 17.0

E Panel sealed, single pole
Thread: 15/32" x 32TPI
Keyway
Panel
Seal
17.5 10.5 17.0

A Double pole, without barrier
Thread: 15/32" x 32TPI
Keyway
17.5 10.0 30.6

B Double pole, with barrier
Thread: 15/32" x 32TPI
Keyway
17.5 10.0 30.6

F Panel sealed, double pole, with terminal barrier
Thread: 15/32" x 32TPI
Keyway
Panel
Seal
17.5 10.0 31.1
Switches with F toggles have double pole bodies, regardless of circuit

G Panel sealed, double pole, without terminal barrier
Thread: 15/32" x 32TPI
Keyway
Panel
Seal
17.5 10.0 31.1

Options

Neck Seal M539
Actuator is visible

Cover M1080

Covers have internal nylon nuts

M1080-2

Covers have internal metal hex nuts

Fixing nuts
Nickel plated brass are supplied

14.0 2.0   15.0 2.3

Knurled Front nut
Panel thickness 4.0 with backnut

Plate P236
Plate SP or DP

OFF
ON

Approvals and specifications

UL/CSA Ratings 3901, 3902, 3920, 3921, 3922
16A, 277Vac
1 HP, 250Vac

7A, 72Vdc
14A, 36Vdc

3910, 3901, 3952, 3960, 3961, 3970, 3971, 3972
16A, 277Vac
1 HP, 250Vac
1/2 HP, 125Vac
7A, 72Vdc
14A, 36Vdc

3900, 3950
20A, 277Vac
1 HP, 250Vac
1/2 HP, 125Vac
7A, 72Vdc
14A, 36Vdc

ENEC Ratings
3900, 3901, 3902, 3950, 3952, 3960, 3961
16(4)A 250Vac

3910, 3911, 3920, 3921, 3922, 3951, 3970, 3972
10 4)A 250Vac

Approvals and ratings vary with function.
3mm contact gap except where marked μ.

* CSA approval for A and B bodies only

Dimensions   mm) * Indicates ON position (for ON - OFF switches)

Single pole
(C terminals shown)

Thread: 15/32" x 32TPI
Keyway
1.5 ± 0.1
11.0 ± 0.1
29.5
14.0   17.5 10.5 17.0   Ø12.2

Thread: 15/32" x 32TPI
Keyway
29.5
Ø12.2
14.0   17.5 10.5 17.0
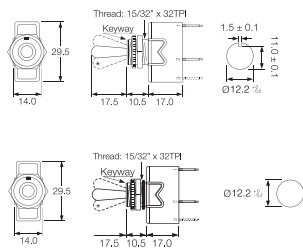
Double pole
(C terminals shown with barrier)

Thread: 15/32" x 32TPI
Keyway
1.5 ± 0.1
11.0 ± 0.1
30.8
21.5   17.5 10.0 31.1   Ø12.2

Thread: 15/32" x 32TPI
Keyway
30
Ø12.2
21.5   17.5 10.0 31.1
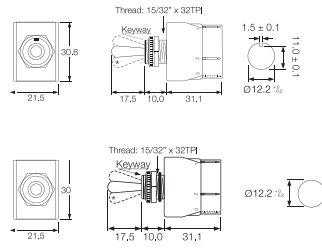
Toggle Switch - sealed version
BE and BF types

Flat washer
(Panel seal)
'O' ring seals
(Toggle seal)
Diaphragm
(Internal seal)
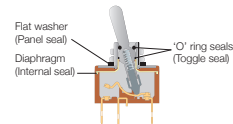
Guard TG1-RED

Examples

C3900BE - - -   C3920BA - - -   C3950BF - - -   C3972BB - - -

bulgin
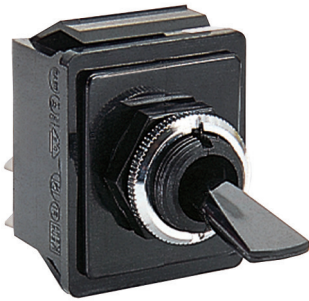
Key Features

○ Nylon toggle switches

○ Ratings up to 20A, 250V ac

○ Single and double pole

○ Wide choice of terminals

○ Choice of circuit options including 3 position

○ Flat & round actuator options

Approvals and specifications

16(4)A 250Vac T85

UL 20A 250Vac Non Ind (Single pole)
UL 16A 250Vac Non Ind (Double pole)
UL CSA (2 pos types) 250Vac 1hp, 125Vac 1/2hp
UL CSA (3 pos types) 250Vac 1/2hp, 125Vac 1/4hp
CSA 16A 250Vac Non Ind
UL 85°C, file E45221, CSA file LR10990
UL and CSA N/A on momentary types

Selective "A, B, C" and "OFF, A, A+B" circuits at 5 amp also available.
3mm contact gap except where marked μ.

Terminal	Function		Actuator	Body	Options
C 9.1	**Single Pole** **1700** ON - OFF	**Double Pole** **1750** ON - OFF	**H** 16.4	**O** Single pole Thread: 15/32" x 32TPI Keyway 10.0 12.2	**Neck Seal M539** Material - Nitrile (H & R Actuators) Actuator visible
H 9.1	**1710 μ** ON - ON	**1760 μ** ON - ON			**Cover M1080** Material - EPDM (R Actuator only)
K 2.0 9.1 1.2	**1720 μ** ON - OFF - ON	**1770 μ** ON - OFF - ON	**R** 13.8	**O** Double Pole Thread: 15/32" x 32TPI Keyway 10.0 19.2 1.5 ± 0.1 11.0 ± 0.1 Ø12.2	**Cover M531** Material - PVC (R Actuator only) Covers have internal nylon nuts
T 7.0 Ø2.1	**1721 μ** ON - OFF - ON μ (momentary 1 side)			Panel hole (all types) Panel thickness (Max) Both nuts - 3.5mm Less backnut - 6.5mm	**Fixing nuts** (Standard is M506 & T92) T5 Hex brass M506 Hex nylon 15.2 3.0 (M506) 2.0 (T5)
X 4.0 9.1	**1722** ON - OFF - ON μ (momentary 2 sides)		The switch is on between centre terminals (2 & 5) and the terminals over which the lever is positioned.		T92 Knurled brass - slotted 16.0 2.6 M279 Knurled nylon 16.2 4.1 **Plate P236** Plate SP or DP OFF ON

Dimensions
mm) * Indicates ON position (for ON - OFF switches)

Single pole
(C terminals shown)

25.5

13.7

Thread: 15/32" x 32TPI

Keyway

10.0

12.2

OFF

ON
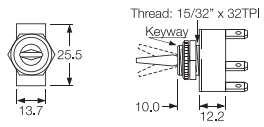
Optional
F00232PAAA
plate SP or DP

Double pole
(C terminals shown)

30.2

25.0

Thread: 15/32" x 32TPI

Keyway

10.0

19.2

Without barrier

1A 2A   3A

4B   5B   6B

With barrier

1A   2A   3A

4B   5B   6B
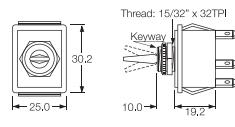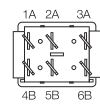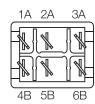
Examples

C1700R - -

C1700H - -

C1760R - -

C1750H - -

Long recognised as a leader in refrigerator door switches, Bulgin's wide range of types and configurations will suit almost any need. With both double pole and single pole options, our switches are not only ideal for traditional refrigerator and freezer applications but can and have been used in a variety of door applications as well.

- Door switches
- Switch rating from 0.2A, 250V ac up to 5A, 250Vac
- Splash resistant variants
- Choice of actuators
- Momentary on and momentary off switching

0055 Door Switches

bulgin

C0056RB ---

C0055RB ---

C0056RB ---

C0055RB ---
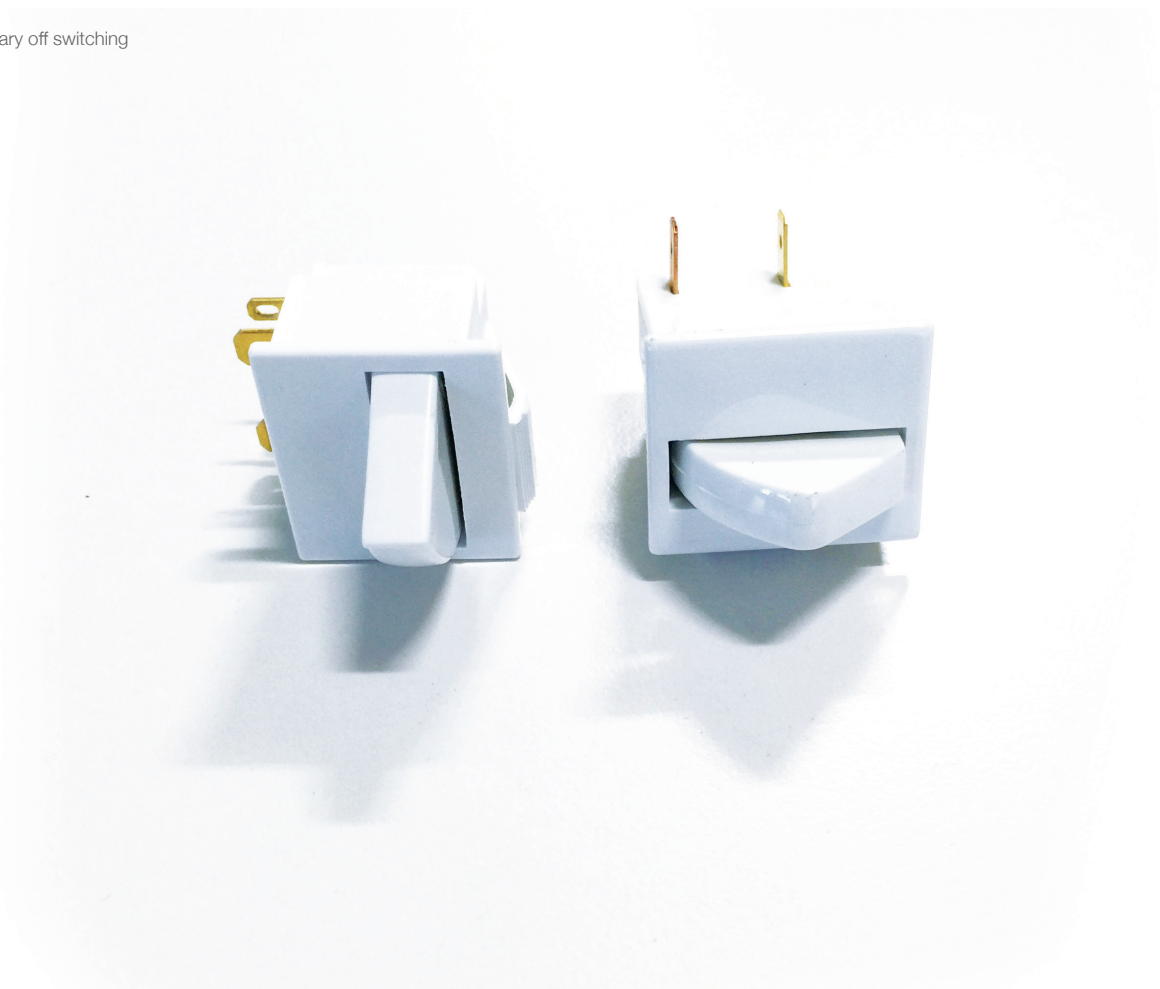
Key Features

○ Ratings up to 0.2A, 250V ac

○ High temperature rating up to 125°C

○ Long overtravel

○ Choice of terminal orientation

Approvals and specifications

☞ 0055 & 0056
0.2(0.2)A 250Vac 25T125 5E4 (50,000 operations)

μ contact gap

Dimensions and Properties

C0055RB

14.3 16.9
7.0
15.0

C0056RB

25.3 16.3
7.0

Terminal	Function	Actuator	Body	Options
C 9.1 6.3x0.8	**0055** ON - OFF (momentary OFF) 90° terminals	**R**	**B** Panel cut - out Ø19.05 19.2 Panel thickness 0055 1.0 - 1.6 0056 1.0 - 2.6 Flange Ø24.1 6.6	**Finish** Gloss finish only **Colour** White or black Call sales for custom colours.
H 9.1 4.8x0.8	**0056** ON - OFF (momentary OFF) straight terminals			

3005 Refrigerator Door Switches
Splash Resistant

bulgin

C3005BL - - -

C3005CB - - -

Key Features

○ Door switches

○ Momentary on and momentary off switching

○ Splash resistant

○ Choice of terminal orientation

○ Choice of actuators

Approvals and specifications

3005 25W 25T85 5E4 (50,000 Operations) 250Vac
3006 65W 25T85 5E4 (50,000 Operations) 250Vac

UL 0.3A 250Vac (Black Versions Only)
c UL 0.2A 125Vac (Black Versions Only)

μ contact gap

Dimensions and Properties

3005
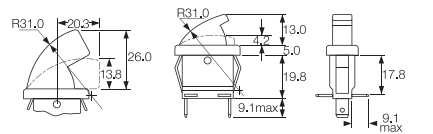
R31.0 20.3 26.0 13.8

R31.0 13.0 4.2 5.0 19.8 9.1max

17.8 9.1 max

Panel thickness 1.0 - 2.5mm

B Actuator   C Actuator   R, L & B terminals

3006

R31.0 20.3 26.0 13.8

R31.0 13.0 4.2 5.0 27.0 9.1max

25.0 9.1max
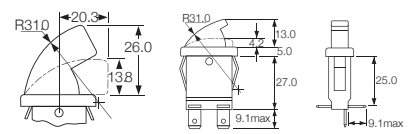
Panel thickness 1.0 - 2.5mm

B Actuator   C Actuator   R, L & B terminals

Terminal	Function	Actuator	Body			Options
C 6.3x0.8 9.1	**3005** ON - OFF (momentary OFF) 1mm max travel to OFF position	**B** 26.0	**R**	**L**	**B** 3005 3006	**Finish** Gloss finish only **Colour** White or black Call sales for custom colours. A full range is available for large orders.
			Terminal direction (viewed from hinge end)			
			Panel cut - out 25.4 25.5 12.1/12.2	Bezel 30.2 14.0	Bezel Profile 5.0	
H 4.8x0.8 9.1	**3006** ON - OFF (momentary ON) 3mm min travel to ON position	**C** 13.0				

3100 Refrigerator Door Switches
Splash resistant

bulgin

E3111BA - - -

E3102AA - - -

Key Features

- Door switches
- Ratings up to 5A, 250V ac
- Splash resistant
- Changeover, momentary ON and momentary OFF
- Choice of actuators

Approvals and specifications

- 5A 250Vac 25T85 5E4 (50,000 Operations)

- UL CSA 5A 250Vac
  UL 85°C, file E45221, CSA file LR10990

  µ contact gap.
  Sealed terminals option available.

Dimensions and Properties

3101 uses terminals 1,2
3102 uses terminals 1,2
3111 uses terminals 1,2,3

For details of actuator travel and switching angles call sales.

Terminal	Function	Actuator	Body	Colour	Options
E 7.9 4.8x0.5 QC	**3101** ON - OFF (momentary CLOSED)	**A** 17.6 max	**A** 27.56 27.31 3.68 2.93 3.68 2.93 1.65 1.14 Optional cut-out for orientation 22.73 22.99	**W** White	**Finish** Gloss finish only **Colour** White or black Call sales for custom colours. A full range is available for large orders.
		B 15.6 max		**B** Black	
	3102 ON - OFF (momentary OFF)	**C** 23.0 max		**PW** Polar White	
		D 17.1 max			
	3111 ON - ON (momentary 1 side)				

3140 Refrigerator Door Switches

Splash resistant

bulgin

HK3141AA - - -

H3145AA - - -

Key Features

- Door switches
- Ratings up to 5A, 250V ac
- Splash resistant
- Momentary action
- Choice of actuators
- 2 circuit switch

Approvals and specifications

5A 250Vac 25T85 5E4 (50,000 Operations)

UL CSA 5A 250Vac
UL 85°C, file E45221, CSA file LR10990

3141, µ contact gap.
3145 and 3146, 3mm contact gap.

Sealed terminals option available.

Dimensions and Properties

3141 uses terminals
1,2,3,4
3145 uses terminals 3,4
3146 uses terminals 1,2

Terminal	Function	Actuator	Body	Colour	Options
H 4.8x0.8 8.0	**3141** 1 2 3 4 ON - ON (momentary)	**A** 17.6 max	**A**	**W** White	**Finish** Gloss finish only
K 2.6 1.5 8.0 2.8x0.8	**3145** 3 4 ON - OFF (momentary OFF)	**B** 15.6 max	27.56 27.31 3.68 2.93 3.68 2.93 1.65 1.14 Optional cut-out for orientation 22.73 22.99	**B** Black	**Colour** White or black Call sales for custom colours. A full range is available for large orders. Order as: 3151 (3141 type) 3155 (3145 type) 3156 (3146 type)
Standard format is H terminals in positions 1 & 2 and K terminals in positions 3 & 4 For sealed terminals call sales	**3146** 1 2 ON - OFF (momentary ON)	**C** 23.0 max **D** 17.1 max		**PW** Polar White	

With up to 5 switching positions as well as multiple terminal, circuit and slider options, Bulgin's board mounted power slide switches can be configured to suit your needs. We also offer a wide range of voltage selector types that can be either snapped into a panel or flange mounted.

- Ratings up to 16A, 250V ac
- PCB and solder terminals
- Voltage Selector Models
- Snap in and flange mounting
- 2, 3, 4 and 5 position
- Choice of circuits
- Choice of actuators
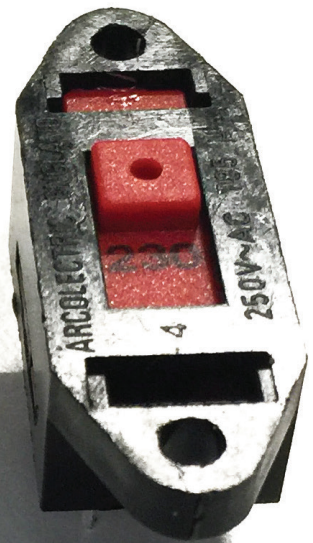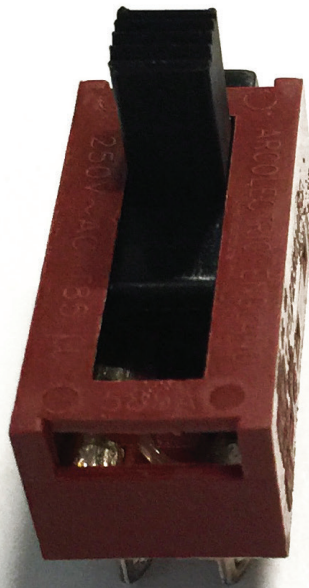
2000 Slide Switches - up to 5 position

10A 250Vac

bulgin
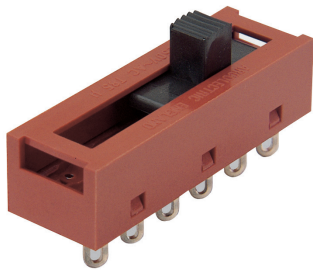
Key Features

○ Slide switches

⬡ Ratings up to 16A, 250V ac

○ PCB and solder terminals

⬡ 2, 3, 4 and 5 position

○ Choice of circuits

⬡ Choice of actuators

Approvals and specifications

☞ 10A 250Vac T85
6(3)A 250Vac T85

🆄🅻 UL CSA 16A 250Vac Non Inductive
UL CSA 4A 300Vac
UL 65°C, file no. E45221, CSA file no. LR10990

μ contact gap
Please specify: Standard action (SP116) or Light action (SP118).
2000 series lubrication is inorganic and does not degrade plastics.

Terminal	Series	Position	Circuit	Slider
K 2.0 / 7.0* 1 3 2.8 x 0.8	**2**	**2** Switching positions	**10** 5 3 1 6 4 2	**0** **6** **D** **L**
R Ø1.2 / 3.6* 2.8 x 0.8			**20** 5 3 1 6 4 2	
			30 5 3 1 6 4 2	**1** **7** **E** **N**
T 2.6 / 6.0* 1.6 Solder			**40** 5 3 1 6 4 2	
		3 Switching positions	**10** 7 5 3 1 8 6 4 2	
			20 7 5 3 1 8 6 4 2	**2** **9** **G** **P**
X 1.6 / 5.6* PCB 0.8 Sq.			**30** 7 5 3 1 8 6 4 2	
			40 7 5 3 1 8 6 4 2	**3** **A** **H** **R**
		4 Switching positions	**10** 9 7 5 3 1 10 8 6 4 2	
Y 2 6 / 5.6* PCB 0.8 Sq.			**20** 9 7 5 3 1 10 8 6 4 2	**4** **B** **J** **S**
For mounting stability switches have extra "support" terminals			**30** 9 7 5 3 1 10 8 6 4 2	
* Nominal - Dimension varies with body type. For exact figure call sales		**5** Switching positions	**40** 9 7 5 3 1 10 8 6 4 2 **10** 11 9 7 5 3 1 12 10 8 6 4 2	**5** **C** **K** **T**
			20 11 9 7 5 3 1 12 10 8 6 4 2	
			30 11 9 7 5 3 1 12 10 8 6 4 2	
			40 11 9 7 5 3 1 12 10 8 6 4 2	

Examples

X22205C - - -

T2220EC - - -

T23206A - - -
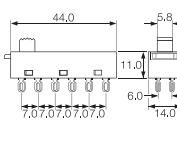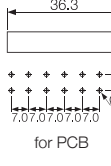
T24306A - - -

T25302A - - -

T25100A - - -

Body	Options	Dimensions

Body

C 2 positions

H 2 positions

A 3 positions

H 3 positions

A 4 positions

H 4 positions

A 5 positions

Options

Colour
Call sales for custom colours.
A full range is available for large orders.

Legend printing
A wide range is available
For all options call sales

Dimensions

C 2 positions

23.0 5.8 11.0 6.0 7.0 7.0 14.0

H 2 positions

23.0 5.8 12.4 6.0 7.0 7.0 14.9

Cut-out /PCB Matrix

13.3 6.3 6.0 Ø1.3 7.0 7.0
for PCB

A 3 positions

30.0 5.8 11.0 6.0 7.0 7.0 7.0 14.0

H 3 positions

30.0 5.8 12.4 6.0 7.0 7.0 7.0 14.9

22.3 6.3 6.0 Ø1.3 7.0 7.0 7.0
for PCB

A 4 positions

37.0 5.8 11.0 6.0 7.0 7.0 7.0 7.0 14.0

H 4 positions

37.0 5.8 12.4 6.0 7.0 7.0 7.0 7.0 14.9

29.3 6.3 6.0 Ø1.3 7.0 7.0 7.0 7.0
for PCB

A 5 positions

44.0 5.8 11.0 6.0 7.0 7.0 7.0 7.0 7.0 14.0

36.3 6.3 6.0 Ø1.3 7.0 7.0 7.0 7.0 7.0 7.0
for PCB

2000 Slide Switches - Snap fit and panel mount
10A 250Vac
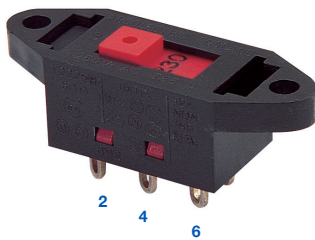
115/230 is preferred legend

Key Features

- 2 way 'voltage selector'
- Ratings up to 16A, 250V ac
- Snap fit and panel mount
- PCB & solder terminals
- 2 and 3 position
- Choice of circuits
- Choice of actuators

Approvals and specifications

10A 250Vac T85
6(3)A 250Vac T85

UL CSA 16A 250Vac Non Inductive
UL CSA 4A 300Vac
UL 65°C, file no. E45221, CSA file no. LR10990

µ contact gap
Please specify: Standard action (SP116) or Light action (SP118).
2000 series lubrication is inorganic and does not degrade plastics.

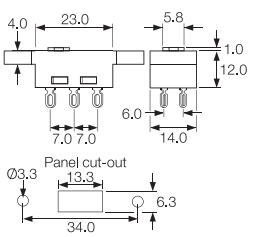| Terminal	Series	Position	Circuit	Slider
K 2.8 x 0.8	**2**	**2** Switching positions	**10**	**0** **6** **C** **L**
R 2.8 x 0.8			**20**	**2** **7** **D** **M**
T Solder			**30**	**3** **8** **E** **N**
			40	**4** **9** **H** **P**
X PCB 0.8 Sq. For mounting stability switches have extra "support" terminals. * Nominal - Dimension varies with body type. For exact figure call sales		**3** Switching positions	**10**	**5** **A** **K** **R**
			20	**S** **T**
			30	
			40	

Examples

T22208E - - -

T22308E - - -

T2230MF - - -
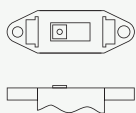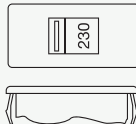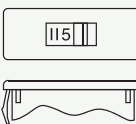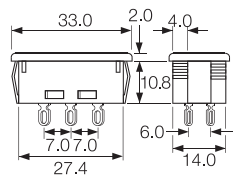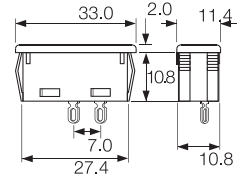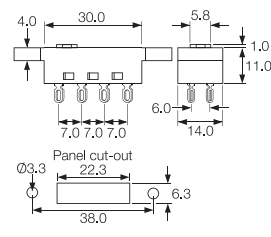
T22205B - - -

T22305B - - -

T23204B - - -

Body	Options	Dimensions

Body

B

With mounting holes

E

Snap fit

230

F

Snap fit
(single pole ON OFF only)

II 5

Options

Colour
Call sales for custom colours.
A full range is available for large orders.
Standard body colour is black.

Dimensions

2 Pos B

4.0 23.0 5.8 1.0 12.0 6.0 7.0 7.0 14.0

Panel cut-out
Ø3.3 13.3 6.3 34.0

3 Pos B

4.0 30.0 5.8 1.0 11.0 6.0 7.0 7.0 7.0 14.0

Panel cut-out
Ø3.3 22.3 6.3 38.0

2 Pos E

33.0 2.0 4.0 10.8 6.0 7.0 7.0 27.4 14.0

Y 14.35 14.45

Panel thickness	Dim. Y
0.8-1.2	29.75/29.85
1.63	30.15/30.25
2.0	30.35/30.45
2.5	30.55/30.65

2 Pos F

33.0 2.0 11.4 10.8 7.0 27.4 10.8

Y 10.85 10.95

Panel thickness	Dim. Y
0.8-1.2	29.75/29.85
1.63	30.15/30.25
2.0	30.35/30.45
2.5	30.55/30.65