

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

The front and rear panel mounted versions have three profiles –prominent, domed and low profile – with a choice of switching and IP66 & IP68 front panel sealing which combined together to meet the ergonomic, electrical and environmental demands of switch panel design.

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

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



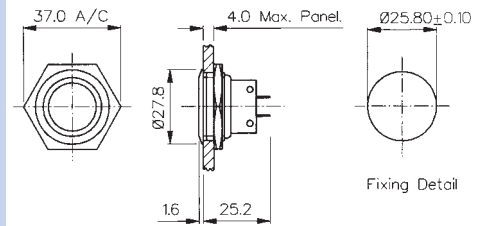
Vandal Resistant	165-185
Push Button	186-195
Voltage Selectors	196
Capacitive Switches	197-202
Piezo Switches	203-208
12mm Switches	209-214
Rocker Switches	215-241
Toggle Switches	242-246
Refrigerator Switches	247-252
Slide Switches	253-257

## Front Panel Mounting



MP0027

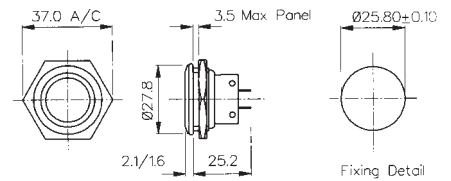
- 28mm diameter
- S.P.C.O. Microswitch
- 5A, 250Vac



## Front Panel Mounting

MP0038  
Sealed to IP66

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



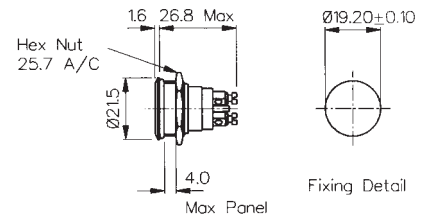
Specifications	MP0027	MP0038
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>9</sup> MΩ	>10 <sup>9</sup> MΩ
Dielectric Strength:	>2.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):		Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations Mechanical:	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm
Materials Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	1.0" x 26TPI
<b>RoHS</b>	Compliant	Compliant

## Front Panel Mounting



MP0037  
Sealed to IP68

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

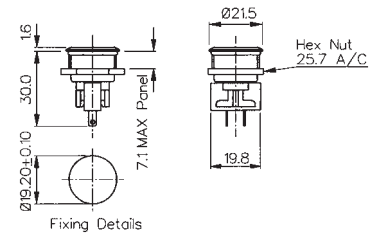


## Front Panel Mounting



MP0031  
Sealed to IP66

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



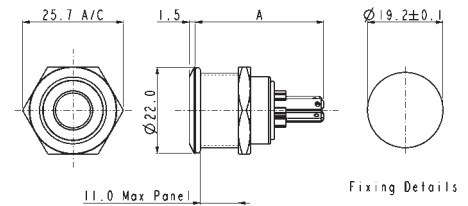
Specifications	MP0037	MP0031
Terminations:	Screw Terminals	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>5</sup> MΩ	>10 <sup>3</sup> MΩ
Dielectric Strength:	>1.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP68 EN 60529:1992+A2:2013 (Micro switch not sealed)	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
IP68 rating 10M for 2 weeks test:	Passed	
Operations		
Mechanical:	1,000,000 (min)	1,000,000 (min)
Electrical:	30,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	4.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm
Materials		
Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Silver Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Brass, Silver Plated, Silver	Fine Silver
Thread size:	0.747" x 26TPI	0.747" x 26TPI
RoHS	Compliant	Compliant

## Front Panel Mounting



MPI001 - front panel seal to IP66

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



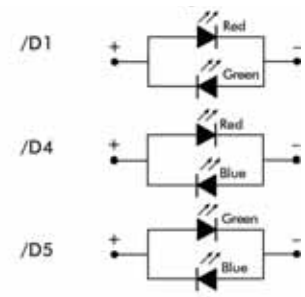
MPI001/TAG/COL A = 32.7  
MPI001/TERM/COL A = 31.0 MAX.

## Specifications

## MPI001/Termination/Colour/Voltage

Illumination style:	Dot							
Terminations:	/28 (2.8mm tabs), /TERM or /TE (screw terminals)							
Switching:	Single pole, push to make, tactile (momentary action)							
Max. Switch Rating:	50mA, 24Vdc							
LEDs (ratings @ 20mA)								
Part No.	/RD	/GN	/AM	/BL	/WH	/D1	/D4	/D5
Colours	Red	Green	Amber	Blue	White	Red/Green	Red/Blue	Green/Blue
Luminous Intensity	900mcd	2500mcd	900mcd	1500mcd	900mcd	2500mcd/5000mcd	2000mcd/850mcd	4000mcd/2000mcd
Forward Voltage	1.85V	3.5V	2.3V	3.5V	3.6V	2.05V/3.6V	2.0V/3.6V	3.6V/3.6V
Forward Current	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA
Moulding Colour	Red	Green	Amber	Blue	White	Black	Black	Black
Illumination Voltage:	/no suffix No resistor fitted. <b>An appropriate resistor must be series connected by the user.</b> Voltages as above.							
	/6	6Vdc						
	/12	12Vdc						
	/24	24Vdc						
Contact Resistance:	<100mΩ							
Insulation Resistance:	>10 <sup>9</sup> 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							

## Dual Colour LED Configuration



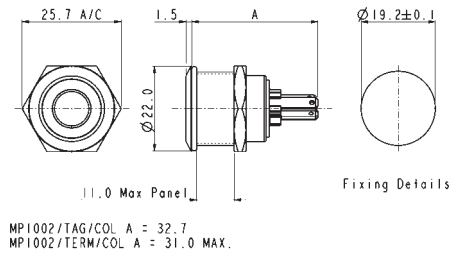
Compliant

## Front Panel Mounting



MPI002- front panel seal to IP66

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



## Specifications

## MPI002/Termination/Colour/Voltage

Illumination style:	Ring									
Terminations:	/28 (2.8mm tabs), /TERM or /TE (screw terminals)									
Switching:	Single pole, push to make, tactile (momentary action)									
Max. Switch Rating:	50mA, 24Vdc									
LEDs (ratings @ 20mA)										
Part No.	/RD	/GN	/AM	/BL	/WH	/D1	/D4	/D5	/D6	
Colours	Red	Green	Amber	Blue	White	Red/Green	Red/Blue	Green/Blue	Green/White	
Luminous Intensity	900mcd	2500mcd	900mcd	1500mcd	900mcd	2500mcd/5000mcd	2000mcd/850mcd	4000mcd/2000mcd	178mcd/450mcd	
Forward Voltage	1.85V	3.5V	2.3V	3.5V	3.6V	2.05V/3.6V	2.0V/3.6V	3.6V/3.6V	3.4V/3.2V	
Forward Current	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA	
Moulding Colour	Red	Green	Amber	Blue	White	Black	Black	Black	Black	
Illumination Voltage:	/no suffix No resistor fitted. <b>An appropriate resistor must be series connected by the user.</b> Voltages as above.									
	/6	6Vdc								
	/12	12Vdc								
	/24	24Vdc								
Contact Resistance:	<100mΩ									
Insulation Resistance:	>10 <sup>3</sup> MΩ									
Dielectric Strength:	Contact to Panel >2.0kV Contact to Contact 1500									
Operating Temp. Range:	-30°C to +70°C									
Sealing (Front of panel only):	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)									
Operations										
Mechanical:	750,000 (min)									
Electrical:	35,000 (min)									
Operating Pressure:	12N									
Rear Nut Fixing Torque:	0.57Nm									
Screw Terminal Torque	0.2Nm Max									

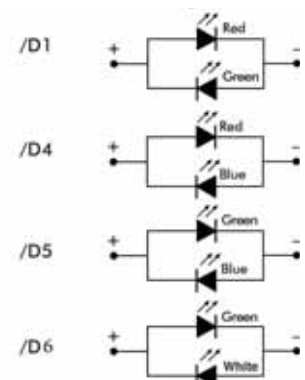
## Materials

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



Compliant

## Dual Colour LED Configuration

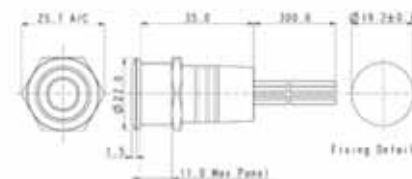


## Rear Panel Sealed - Flying Leads



MPI002/FL/xx/x

- 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



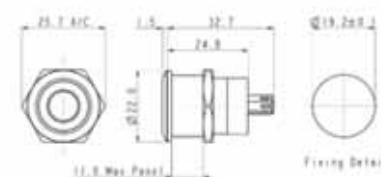
Flying lead colours: LED: red + and black -; Switch contacts: white.

## Rear Panel Sealed - Solder Tags



MPI001/RP/xx/x

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



LED terminals marked + and -; Switch terminals unmarked.

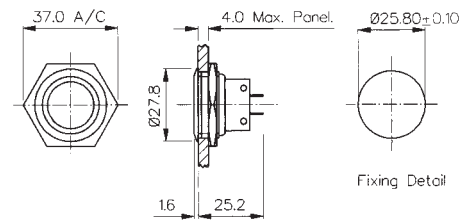
Specifications	MPI001/Termination/Colour/Voltage	MPI002/Termination/Colour/Voltage
Illumination style:	Dot	Ring
Terminations:	/FL (Flying leads) /RP (Solder tags)	/FL (Flying leads) /RP (Solder tags)
Switching:	Single pole, push to make, tactile (momentary action)	Single pole, push to make, tactile (momentary 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. /6 6Vdc /12 12Vdc /24 24Vdc	/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	<100mΩ
Insulation Resistance:	>10 <sup>9</sup> MΩ	>10 <sup>9</sup> MΩ
Dielectric Strength:	Contact to Panel >2.0kV Contact to Contact 1500	Contact to Panel >2.0kV Contact to Contact 1500
Operating Temp. Range:	-30°C to +70°C	-30°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations		
Mechanical:	750,000 (min)	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
	Compliant	Compliant

## Front Panel Mounting



MPB038  
Sealed to IP66

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

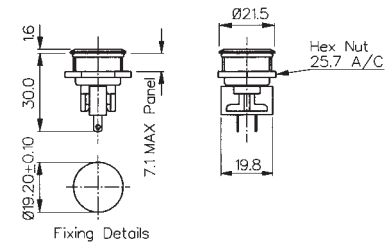


## Front Panel Mounting



MPB031  
Sealed to IP66

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

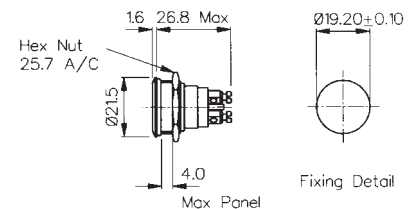


## Front Panel Mounting



MPB037  
Sealed to IP68

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



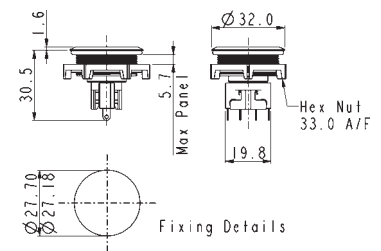
Specifications	MPB038	MPB031	MPB037
Terminations:	Solder Tags	Solder Tags	Screw Terminals
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)	S.P. Push to make Momentary action
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc	1A, 50Vac/dc
Contact Resistance: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

## Front Panel Mounting - Low Profile



MP0050

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

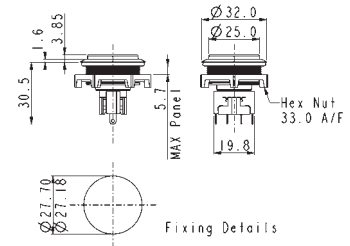


## Front Panel Mounting - Protruding Profile



MP0050/2

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



Specifications	MP0050	MP0050/2
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>9</sup> MΩ	>10 <sup>9</sup> MΩ
Dielectric Strength:	>2.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)	Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations Mechanical:	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)
Operating Pressure:	4.7Nm	4.7N (typ)
Rear Nut Fixing Torque:	0.57Nm	0.57Nm
Materials Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Fine Silver	Fine Silver
Thread size:	M27 x 1.0-6H	M27 x 1.0-6H
<b>RoHS</b>	Compliant	Compliant

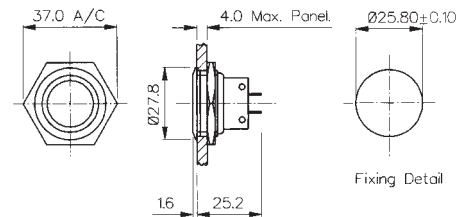


## Front Panel Mounting



MP0027/3

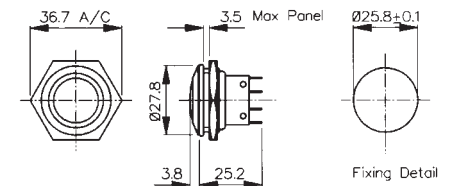
- 28mm diameter
- Domed Profile
- S.P.C.O. Microswitch
- 5A, 250Vac



## Front Panel Mounting

MP0038/3  
Sealed to IP66

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



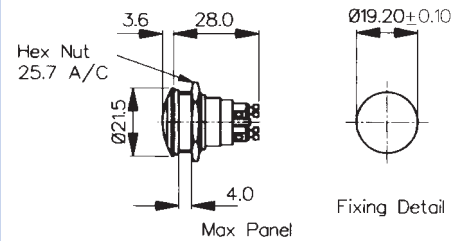
Specifications	MP0027/3	MP0038/3
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac. 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>9</sup> MΩ	>10 <sup>9</sup> MΩ
Dielectric Strength:	>2.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +70°C	-20°C to +70°C
Sealing (Front of panel only):		Protection Classification: IP66 EN60529-1:1992 + A2:2013. (Micro switch not sealed)
Operations		
Mechanical:	1,000,000 (min)	1,000,000 (min)
Electrical:	35,000 (min)	35,000 (min)
Operating Pressure:	7.5N (typ)	12.5N (typ)
Rear Nut Fixing Torque:	2.5Nm	1.13Nm
Materials		
Mouldings:	Glass Filled Nylon	Glass Filled Nylon
Tags/Terminations:	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Fine Silver	Fine Silver
Thread size:	1.0" x 26TPI	0.747" x 26TPI
<b>RoHS</b>	Compliant	Compliant

## Front Panel Mounting



MP0037/3  
Sealed to IP68

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

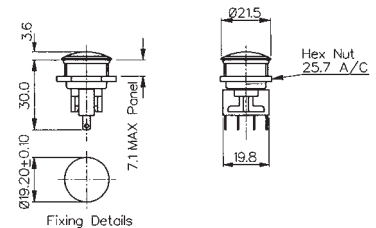


## Front Panel Mounting



MP0031/3  
Sealed to IP66

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



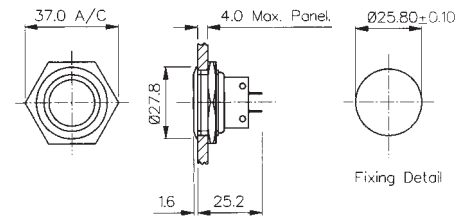
Specifications	MP0037/3	MP0031/3
Terminations:	Screw Terminals	Solder Tags
Switching:	S.P. Push to make Momentary action	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>5</sup> MΩ	>10 <sup>3</sup>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

## Front Panel Mounting



MP0027/2

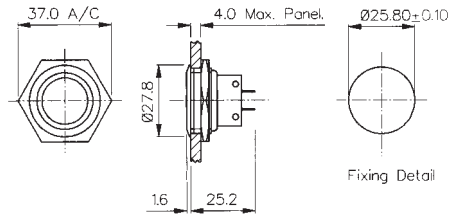
- 28mm diameter
- Prominent Button
- S.P.C.O. Microswitch
- 5A, 250Vac



## Front Panel Mounting

MP0038/2  
Sealed to IP66

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

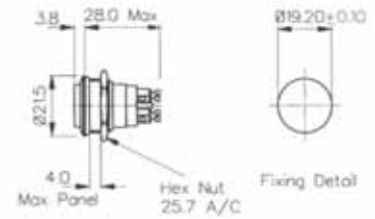


Specifications	MP0027/2	MP0038/2
Terminations:	Solder Tags	Solder Tags
Switching:	S.P.C.O. Momentary Action (Microswitch)	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	5A, 250Vac 2A, 28Vdc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>3</sup> MΩ	>10 <sup>3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

## Front Panel Mounting

MP0037/2  
Sealed to IP68

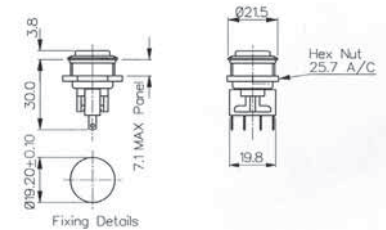
- Front Panel Sealed to IP68
- 21.5mm diameter
- Prominent Button
- S.P. Push to Make
- 1A, 50Vac/dc



## Front Panel Mounting

MP0031/2  
Sealed to IP66

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



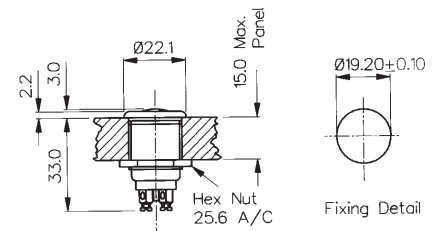
Specifications	MP0037/2	MP0031/2
Terminations:	Screw Terminals	Solder Tags
Switching:	S.P. Push to make Slow momentary action	S.P.C.O. Momentary Action (Microswitch)
Max. Rating:	1A, 50Vac/dc	5A, 250Vac. 2A, 28Vdc
Contact Resistance:	<10mΩ	<10mΩ
Insulation Resistance:	>10 <sup>5</sup> MΩ	>10 <sup>3</sup>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

Front Panel Mounting



MP0013  
MP0033

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

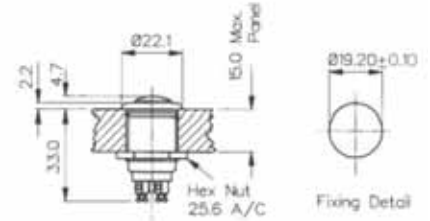


Front Panel Mounting



MP0013/2  
MP0033/2

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



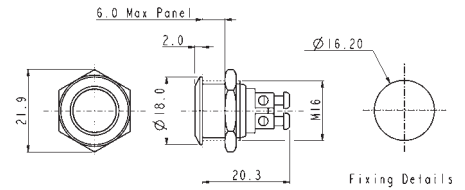
Specifications	MP0013, MP0033	MP0013/2, MP0033/2
Terminations:	Screw Terminals	Screw Terminals
Switching:	S.P. Push to make Slow momentary action	S.P. Push to make Slow momentary action
Max. Rating:	1A, 50Vac/dc	1A, 50Vac/dc
Contact Resistance:	<15mΩ	<15mΩ
Insulation Resistance:	>10 <sup>4</sup> MΩ	>10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

Flush Profile



MP0042/1

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

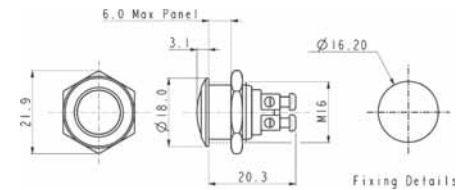


Domed Profile



MP0042/2

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

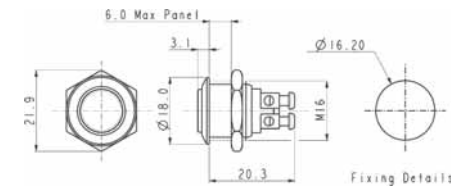


Prominent Button



MP0042/3

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



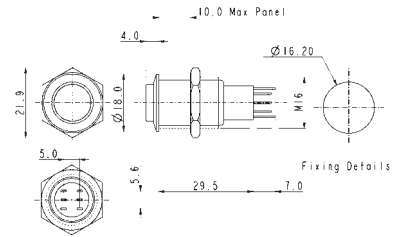
Specifications	MP0042/1	MP0042/2	MP0042/3
Terminations:	Screw Terminals	Screw Terminals	Screw Terminals
Switching:	S.P. Push to make	S.P. Push to make	S.P. Push to make
Max. Rating:	2A, 48Vdc	2A, 48Vdc	2A, 48Vdc
Contact Resistance:	50mΩ at 1A, 2V	50mΩ at 1A, 2V	50mΩ at 1A, 2V
Insulation Resistance:	>10 <sup>9</sup> MΩ @ 500Vdc	>10 <sup>9</sup> MΩ @ 500Vdc	>10 <sup>9</sup> 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
<b>RoHS</b>	Compliant	Compliant	Compliant

Low Profile



MP0045/1D

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

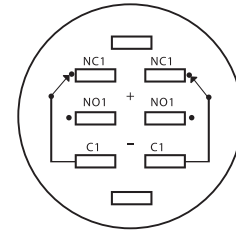
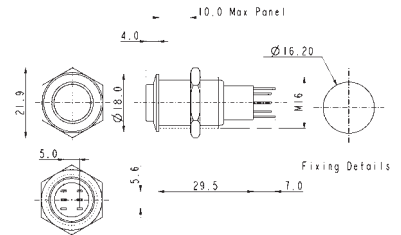


Prominent Button



MP0045/3D

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



Contact Layout

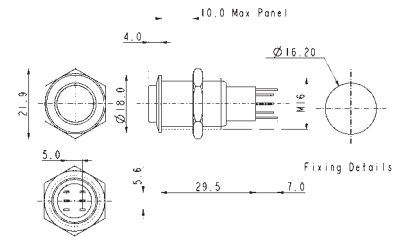
Specifications	MP0045/1D0NN000/Sealing	MP0045/3D0NN000/Sealing
Terminations:	Solder tags	Solder tags
Switching:	D.P.C.O Momentary Action	D.P.C.O Momentary Action
Sealing:	IP67 IP40	IP67 IP40
Part No.	/S BLANK	/S BLANK
Max. Rating:	250V ac	250V ac
Contact Resistance:	50mΩ max. @ 1A, 2V	50mΩ max. @ 1A, 2V
Insulation Resistance:	>10 <sup>3</sup> MΩ @ 500Vdc	>10 <sup>3</sup> MΩ @ 500Vdc
Dielectric Strength:	> 2.0kVac	> 2.0kVac
Operating Temp. Range:	-20°C to +55°C	-20°C to +55°C
Operations		
Mechanical:	200,000 (min)	200,000 (min)
Electrical:	30,000 (min)	30,000 (min)
Rear Nut Fixing Torque:	12Nm	12Nm
Materials		
Mouldings:	Nylon	Nylon
Tags/Terminations:	Brass, Silver Plated	Brass, Silver Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Silver	Silver
Variants:	Nickel Plated Brass version available Details on request	Nickel Plated Brass version available Details on request
RoHS	Compliant	Compliant

Low Profile



MP0045/1E

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

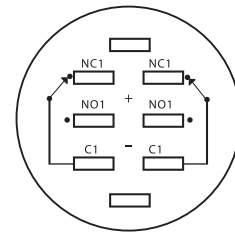
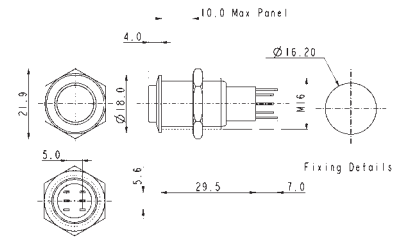


Prominent Button



MP0045/3E

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



Contact Layout

Specifications	MP0045/1E0NN000/Sealing	MP0045/3E0NN000/Sealing
Terminations:	Solder Tags	Solder Tags
Switching:	D.P.C.O. - Latching Action	D.P.C.O. - Latching Action
Sealing:	IP67 IP40	IP67 IP40
Part No.	/S BLANK	/S BLANK
Max. Rating:	250V ac	250V ac
Contact Resistance:	50mΩ max. @ 1A, 2V	50mΩ max. @ 1A, 2V
Insulation Resistance:	>10 <sup>9</sup> MΩ @ 500Vdc	>10 <sup>9</sup> MΩ @ 500Vdc
Dielectric Strength:	>2.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +55°C	-20°C to +55°C
Operations		
Mechanical:	200,000 (min)	200,000 (min)
Electrical:	30,000 (min)	30,000 (min)
Rear Nut Fixing Torque:	12Nm	12Nm
Materials		
Mouldings:	Nylon	Nylon
Tags/Terminations:	Brass, Tin Plated	Brass, Tin Plated
Switch Body & Button:	Stainless Steel (Polished)	Stainless Steel (Polished)
Contacts:	Silver	Silver
Thread size:	Nickel Plated Brass version Details on request	Nickel Plated Brass version Details on request
<b>RoHS</b>	Compliant	Compliant

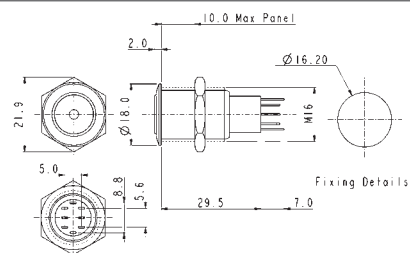


Front Panel Mounting



MP0045/1D1

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

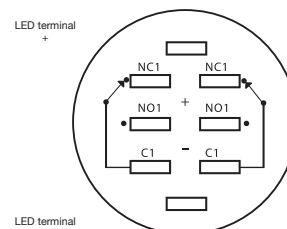
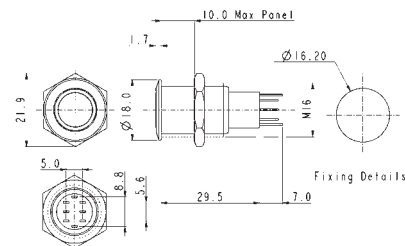


Front Panel Mounting



MP0045/1D2

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



Contact Layout

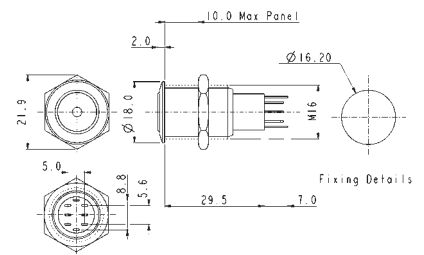
Specifications	MP0045/1D1/Colour/Voltage/Sealing	MP0045/1D2/Colour/Voltage/Sealing
Terminations:	Solder Tags	Solder Tags
Illumination:	Dot	Ring
Switching:	D.P.C.O. Momentary Action	D.P.C.O. Momentary Action
Sealing:	IP67 IP40	IP67 IP40
Part No.	/S BLANK	/S BLANK
Max. Switch Rating:	3A, 250Vac	3A, 250Vac
LEDs		
Colours	Red Green Amber Blue	Red Green Amber Blue
Part No.	/RD /GN /AM /BL	/RD /GN /AM /BL
Voltage	12Vdc 220Vdc	12Vdc 220Vdc
Part No.	/012 /220	/012 /220
Contact Resistance:	50mΩ max. @ 1A, 2Vdc	50mΩ max. @ 1A, 2Vdc
Insulation Resistance:	>10 <sup>3</sup> MΩ @ 500Vac	>10 <sup>3</sup> MΩ @ 500Vac
Dielectric Strength:	>2.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +55°C	-20°C to +55°C
Operations		
Mechanical:	200,000 (min)	200,000 (min)
Electrical:	30,000 (min)	30,000 (min)
Rear Nut Fixing Torque:	12Nm	12Nm
Materials		
Mouldings:	Nylon	Nylon
Tags:	Brass, Silver Plated	Brass, Silver Plated
Switch Body & Button:	Stainless Steel (Polished)	Stainless Steel (Polished)
Variants	Prominent Button, details on request	Prominent Button, details on request
RoHS	Compliant	Compliant

## Front Panel Mounting



MP0045/1E1

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

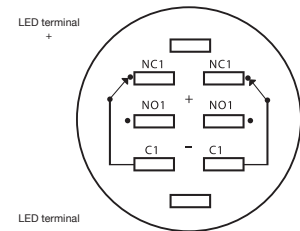
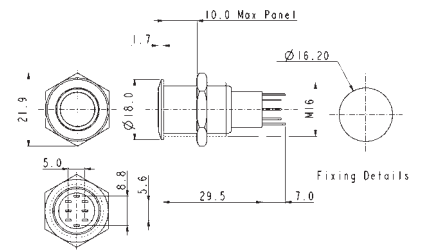


## Front Panel Mounting



MP0045/1E2

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



Contact Layout

Specifications	MP0045/1E1/Colour/Voltage/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:	IP67 IP40	IP67 IP40
Part No.	/S BLANK	/S BLANK
Max. Switch Rating:	3A, 250Vac	3A, 250Vac
LEDs		
Colours	Red Green Amber Blue	Red Green Amber Blue
Part No.	/RD /GN /AM /BL	/RD /GN /AM /BL
Voltage	12Vdc 220Vdc	12Vdc 220Vdc
Part No.	/012 /220	/012 /220
Contact Resistance:	50mΩ max. @ 1A, 2Vdc	50mΩ max. @ 1A, 2Vdc
Insulation Resistance:	>10 <sup>9</sup> MΩ @ 500Vac	>10 <sup>9</sup> MΩ @ 500Vac
Dielectric Strength:	>2.0kVac	>2.0kVac
Operating Temp. Range:	-20°C to +55°C	-20°C to +55°C
Operations		
Mechanical:	200,000 (min)	200,000 (min)
Electrical:	30,000 (min)	30,000 (min)
Rear Nut Fixing Torque:	12Nm	12Nm
Materials		
Mouldings:	Nylon	Nylon
Tags:	Brass, Silver Plated	Brass, Silver Plated
Switch Body & Button:	Stainless Steel (Polished)	Stainless Steel (Polished)
Variants	Prominent Button, details on request	Prominent Button, details on request
<b>RoHS</b>	Compliant	Compliant

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

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



# Switches 8300 Vandal Resistant Switches

Designed to IP66



H8300RP - - -

## Key Features

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

## Approvals and specifications

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

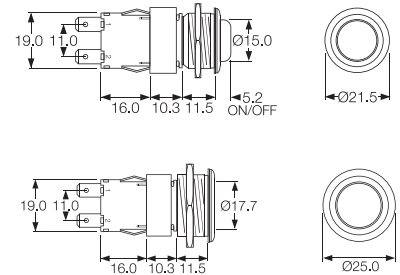
12A 250Vac DP, 13A 250Vac SP  
 250Vac 1hp, 125Vac 1/2hp  
 UL 85°C, file E45221, CSA file LR10990

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

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

## Dimensions

8300RP (H terminals shown)



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

Switches  
**0911 Vandal Resistant Switches**

Designed to IP66



C0911VA - - -

**Key Features**

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

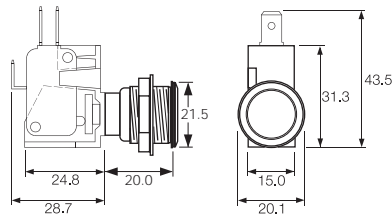
**Approvals and specifications**

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

Approvals apply to switch mechanism only.  
 μ contact gap.

**Dimensions**

C0911VA



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

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

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

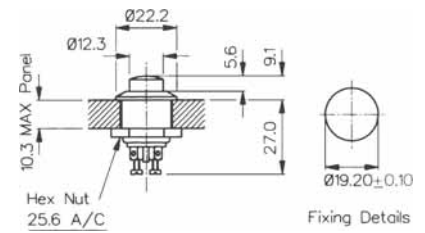


Front Panel Mounting



MP0012/Col

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

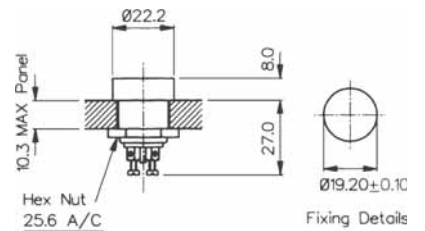


Front Panel Mounting



MP0012/1/Col

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

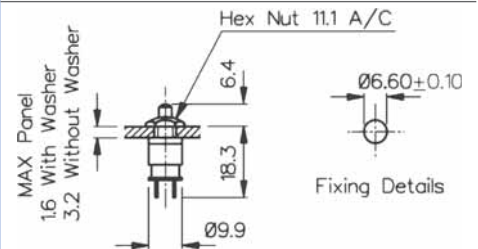


Rear Panel Mounting



MP0016

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



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

# 8300 Series Push Button

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



## Key Features

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

## Approvals and specifications

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

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

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

UL 85°C, file E45221, CSA file LR10990

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

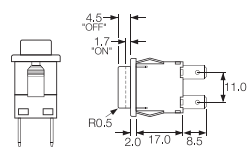
3mm contact gap.

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

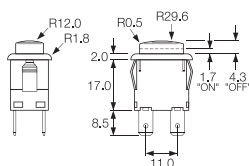


## Dimensions

Actuator A  
Body B



Actuator J  
Body E



## Examples



H8350AB ---  
T8350AB ---




H8353JE ---  
T8353JE ---



H8353EB ---  
T8353EB ---



H8353CB ---  
T8353CB ---

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

# 8200 Series Push Button

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



## Key Features

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

## Approvals and specifications

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

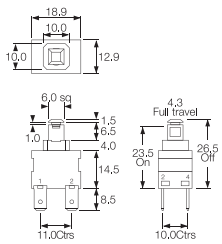
12A 250Vac  
250Vac 1hp, 125Vac 1/2hp  
UL 85°C, file E45221, CSA file LR10990

3mm contact gap.

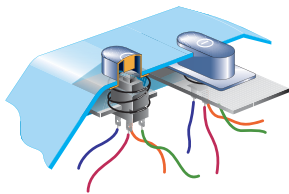
Terminal	Function	Actuator	Body Code
<p><b>C</b></p> <p>6.3 x 0.8 10.1</p>	<p>1 2 3 4</p> <p>Approvals &amp; ratings vary with function Single pole switches use terminals 1 &amp; 2 (&amp; 3)</p> <p><b>8200</b> Single Pole ON - OFF</p>	<p><b>A</b></p> <p>Standard actuator for snap-on custom adaptors</p>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

## Dimensions

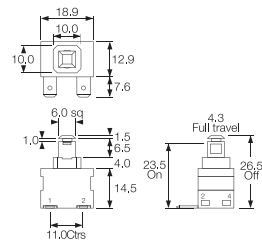
'A' body with 'H' 4.8 terminals



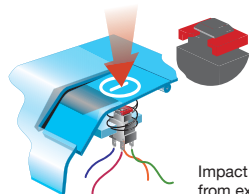
Example of possible mounting styles



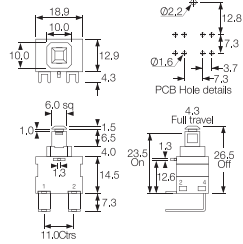
'A' body with 'A' right angle 4.8 terminals



Alternative Actuator



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



## Examples



C8250AA ---  
with impact  
washer M1226



X8201AA ---



K8200AA ---



A8200AA ---



M8200AC ---



Example of M8200AC

# 7000 Series Push Button

16A 250Vac




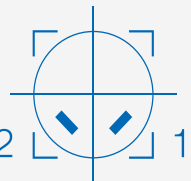

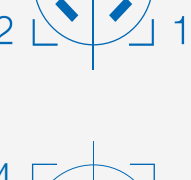

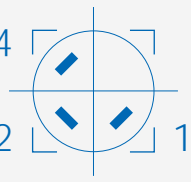
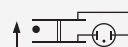


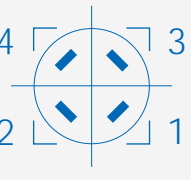

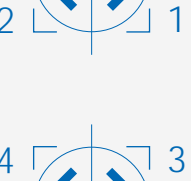

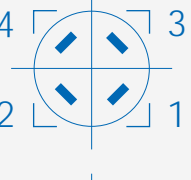

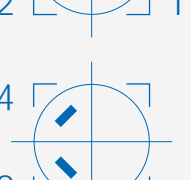

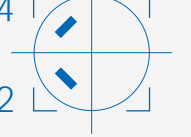
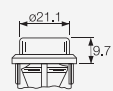

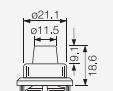
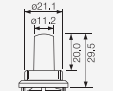
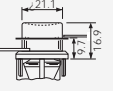


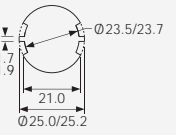
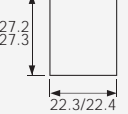


## Key Features

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

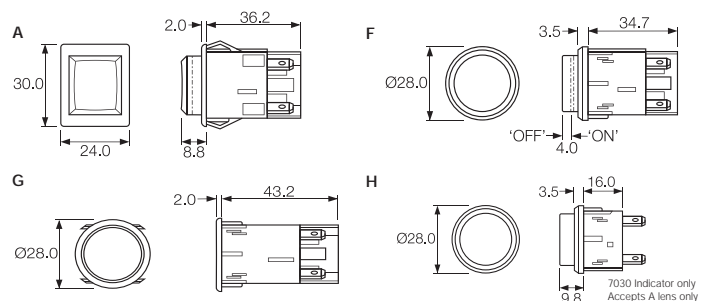
## Approvals and specifications

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

Terminal	Function	Actuator	Body Code
<p><b>C</b></p>  <p>6.3 x 0.8</p> <p>9.1</p> <p><b>H</b></p>  <p>4.8 x 0.8</p> <p>9.1</p>	<p>1 2 3 4 Approvals &amp; ratings vary with function Single pole switches use terminals 1 &amp; 2 (&amp; 3)</p> <p><b>7000</b> Single Pole ON - OFF</p>   <p><b>7001</b> Single Pole (momentary) ON - OFF</p>   <p><b>7003</b> Single Pole (with light) ON - OFF</p>   <p><b>7004</b> Single Pole (momentary) with light ON - OFF</p>   <p><b>7050</b> Double Pole ON - OFF</p>   <p><b>7051</b> Double Pole with light ON - OFF</p>   <p><b>7053</b> Double pole with light ON - OFF</p>   <p><b>7054</b> Double pole (momentary ON) with light ON - OFF</p>   <p><b>7030</b> Indicator UL E63363 CSA LR29381</p>  	<p><b>A</b> Round actuator shown in F body</p>  <p><b>A</b> Round actuator shown in G body</p>  <p><b>B</b> Round actuator - medium shown in F body</p>  <p><b>C</b> Round actuator - long shown in F body</p>  <p><b>D</b> Round actuator - sub panel mount</p>  <p><b>S</b> Rectangular actuator Shown in "A" body N/A for 7030</p> 	<p>Panel cut-outs</p> <p><b>F H G</b></p> <p>Body types fit either cut-out</p>   <p><b>A</b></p>  <p>Cut-outs must be punched in the direction of insertion</p>

## Dimensions

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



## Examples



C7000AF ---



C7003AF ---



C7050SA ---



C7053AG ---

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

# 0911 Push Button Switches

0.5A 250Vac



## Key Features

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

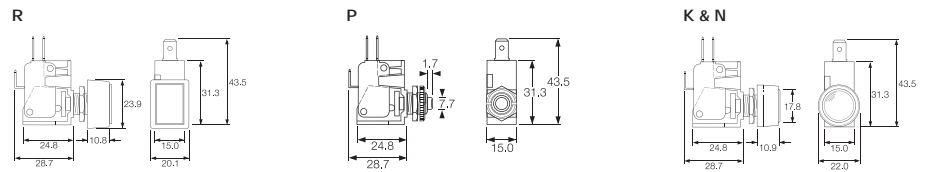
## Approvals and specifications

16(4)A 250Vac 5E4 T85

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

Approvals apply to switch mechanism only.  
μ contact gap.

## Dimensions



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



### Key Features

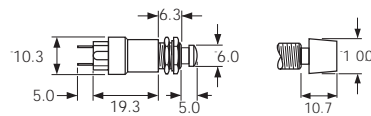
- Self wiping contacts
- Slow make & break
- Momentary action
- Choice of switch circuits
- Choice of actuators

### Approvals and specifications

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

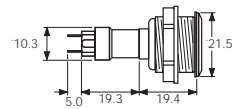
### Dimensions

Dimensions (mm) Nylon S and L actuators



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

Stainless steel V actuator (IP66)



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

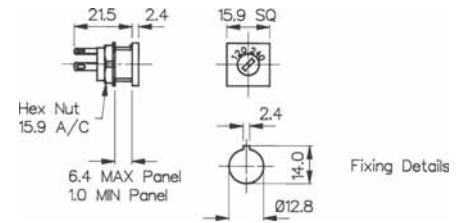
Terminal	Function	Actuator	Body Code	Options
<p><b>T</b></p>	<p><b>0916</b></p> <p>Black base SP ON - OFF (momentary)</p>	<p><b>S</b> Small Actuator</p>	<p>Panel Cut-out (L &amp; S Actuators)</p>	<p>Finish</p> <p>Gloss finish for L and S actuators.</p>
	<p><b>0917</b> 50V only</p> <p>Brown base SP ON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

120/140V Voltage Selector



VS0001

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

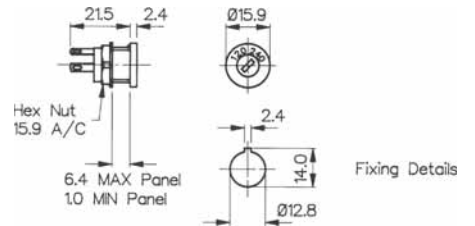


120/140V Voltage Selector

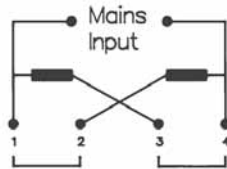


VS0002

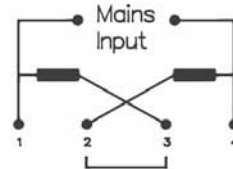
- 2.8 series tabs/Solder tags
- Round Front Bezel
- 6.3A
- CSA & VDE approvals



Connection Parallel 120V



Connection Series 240V



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



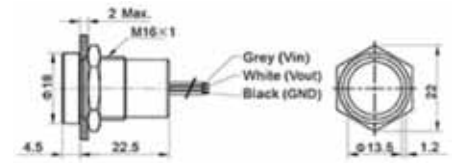
- ⊞ Sealed to IP68 and IP69K
- ⊞ Momentary or latching functions
- ⊞ Large or thin ring illumination options
- ⊞ Long life operation – 50 million of cycles
- ⊞ 16, 19, 22 or 25mm diameter options
- ⊞ Easy to use and clean
- ⊞ Extremely robust and durable – IK10 rated
- ⊞ No operating force required – 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

16mm Illuminated



MC16

- Illuminated
- 300 mm lead



**Specification**

**MC16**

Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel Multi-wire leads section 0.22mm <sup>2</sup> (length 300mm)
Maximum Current / Voltage Rating:	10mA 12 VDC
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: Ø16.20 (.637 DIA)

**Environmental Specification**

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

**Circuit Specification**

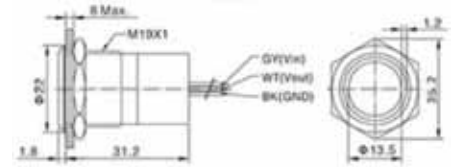
See wiring diagrams on Part No System page

19mm Illuminated



MC19

- Illuminated
- 300 mm lead



### Specification

#### MC19

Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel Multi-wire leads section 0.22mm <sup>2</sup> (length 300mm)
Maximum Current / Voltage Rating:	10mA 12 VDC
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: Ø16.20 (.637 DIA)

### Environmental Specification

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

### Circuit Specification

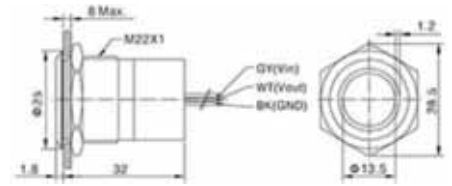
See wiring diagrams on Part No System page

22mm Illuminated



MC22

- Illuminated
- 300 mm lead



### Specification

### MC22

Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel
	Multi-wire leads section 0.22mm <sup>2</sup> (length 300mm)
Maximum Current / Voltage Rating:	10mA 12 VDC
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: Ø16.20 (.637 DIA)

### Environmental Specification

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

### Circuit Specification

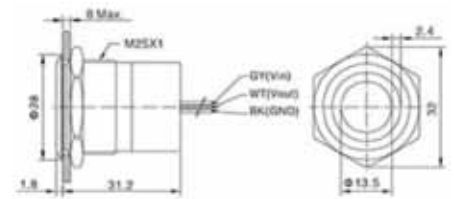
See wiring diagrams on Part No System page

25mm Illuminated



MC25

- Illuminated
- 300 mm lead



**Specification**

**MC25**

Type	Momentary / Latching
Materials	Case: Aluminium, Anodised and Stainless Steel Multi-wire leads section 0.22mm <sup>2</sup> (length 300mm)
Maximum Current / Voltage Rating:	10mA 12 VDC
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: Ø16.20 (.637 DIA)

**Environmental Specification**

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

**Circuit Specification**

See wiring diagrams on Part No System page

**Part No System**

<b>MC</b>	<b>/</b>	<b>XX</b>	<b>/</b>	<b>X</b>	<b>/</b>	<b>X</b>	<b>/</b>	<b>X</b>	<b>/</b>	<b>X</b>
Series MC-Capacitive Switch		Switch Size 16 = 16mm 19 = 19mm 22 = 22mm 25 = 25mm		Switch Function M = Momentary L = Latching		Switch Status O = Normally Open C = Normally Closed		Colour / Material B = Black Anodised R = Red Anodised S = Stainless Steel		LED Colours GN = GREEN RD = RED AM = AMBER 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 Illumination

**Circuit Specifications**

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

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.



Piezo Switches  
**16mm Stainless Steel**

Non Illuminated

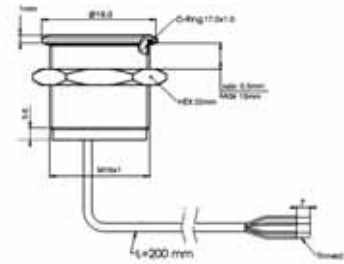


16MM Stainless Steel Non Illuminated



MPZ016

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



**Specification**

**MPZ016**

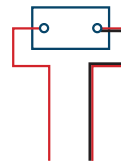
Type	Momentary
Material	Stainless Steel (Aluminium upon request)
Maximum Voltage	24V AC/DC
Switch Resistance "ON"	<1Ω
Switch Resistance "OFF"	5MΩ
Capacitance	100pF
Switching current (momentary)	1A Max
Switching current (prolonged)	300 mA
Switching pulse time (momentary)	up to 0.3 sec
Actuating force,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

**Environmental Specification**

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

**Circuit Specification**

16MM Stainless Steel Non Illuminated



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



Piezo Switches  
**19mm Stainless Steel**

Illuminated and Non Illuminated

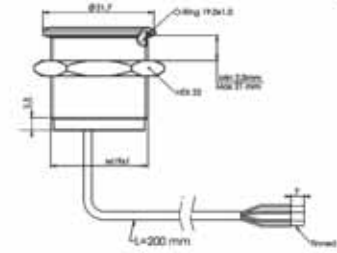


19MM Stainless Steel Illuminated



MPZI019

- Blue Illumination
- 20 cm lead
- Flathead

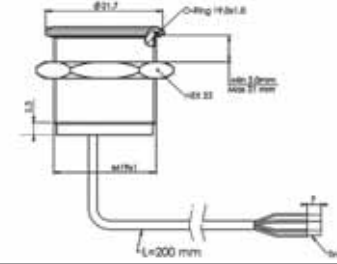


19MM Stainless Steel Non Illuminated



MPZ019

- Non Illumination
- 20 cm lead
- Flathead



**Specification**

**MPZ019, MPZI019**

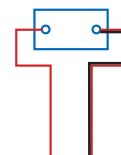
Type	Momentary
Material	Stainless Steel (Aluminium upon request)
Maximum Voltage	24V AC/DC
Switch Resistance "ON"	<1Ω
Switch Resistance "OFF"	5MΩ
Capacitance	100pF
Switching current (momentary)	1A Max
Switching current (prolonged)	300 mA
Switching pulse time (momentary)	up to 0.3 sec
LED Illumination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

**Environmental Specification**

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

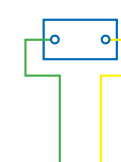
**Circuit Specification**

19MM Stainless Steel Non Illuminated



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

19MM Stainless Steel Illuminated



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

# Piezo Switches 22mm Stainless Steel

Illuminated and Non Illuminated

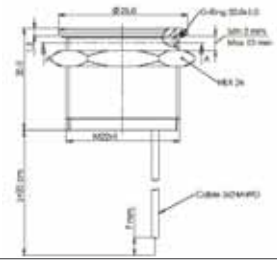


## 22MM Stainless Steel Non Illuminated



MPZ022

- Non Illumination
- 20 cm lead
- Flathead

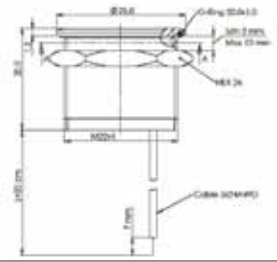


## 22MM Stainless Steel Illuminated



MPZI022

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

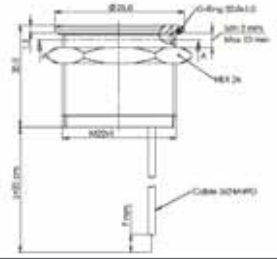


## 22MM Stainless Steel Illuminated



MPZI022

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



### Specification

### MPZ022, MPZI022

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

### Environmental Specification

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

### Circuit Specification

#### 22MM Stainless Steel Non Illuminated



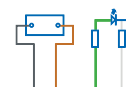
Switch Voltage	24 AC/DC
Switch Current	1A Max
Power Supply	24V AC/DC

#### 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

Piezo Switches  
**22mm Stainless Steel Flathead**

Illuminated

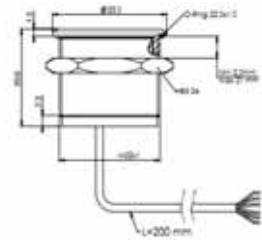


22MM Stainless Steel Illuminated



MPZI022/L

- Blue Illumination
- 1 colour
- 20 cm lead



**Specification**

**MPZI022/L**

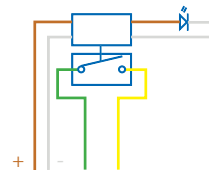
Type	Latching Toggle
Material	Stainless Steel (Aluminium upon request)
Power Supply	24V AC/DC
Switching voltage	48V AC peak/DC
Switch Resistance "ON"	<0.7Ω
Switch Resistance "OFF"	>1000MΩ
Capacitance	<90pF
Switching current	1A Max
LED Illumination	24V AC/DC
Actuating force, typically	3-5 N
Life cycle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

**Environmental specification**

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

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

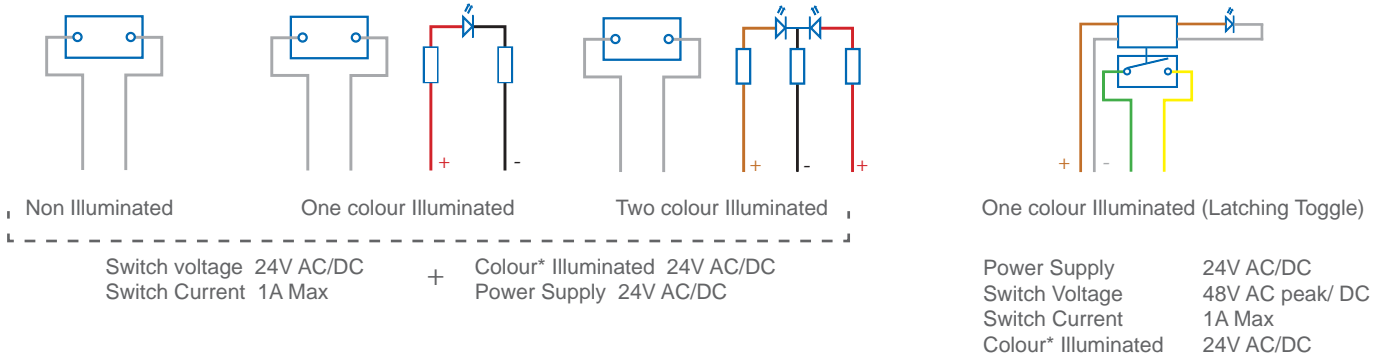
Examples:

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

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

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

Circuit Specifications



Other switches are available upon request\*

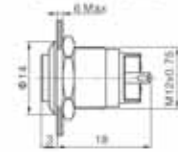
MAV0120



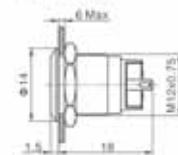
MAV0120

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

Prominent Profile



Flush Profile



## Specification

### MAV0120/3

### MAV0120/1

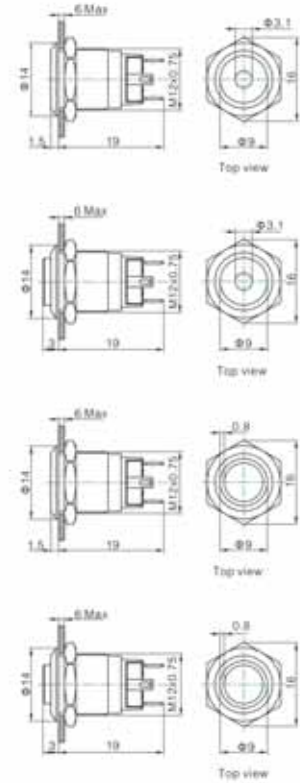
Terminations:	P - Solder Tabs	P - Solder Tabs
Switching:	S.P. Push to make	S.P. Push to make
Max Rating:	2A, 36Vdc	2A, 36Vdc
Contact Resistance:	≥50MΩ	≥50MΩ
Insulation Resistance:	≥1000MΩ	≥1000MΩ
Dielectric Strength:	1500V, AC 50Hz, 5 Secs	1500V, AC 50Hz, 5 Secs
Operating Temp Range:	*-25°C ~ +55°C	*-25°C ~ +55°C
<b>Operations</b>		
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
<b>Materials</b>		
Mouldings:	PA	PA
Tags/Terminations:	Copper, Gold Plated	Copper, Gold Plated
Switch Body & Button:	Stainless Steel	Stainless Steel
Contacts:	Silver Alloy	Silver Alloy
Thread size:	M12x0.75	M12x0.75
RoHS	Compliant	Compliant

MAV0120



MAV0120

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



## Specification

## MAV0120

Terminations:	P - Solder Tabs				
Switching:	S.P. Push to make				
Max Rating:	2A, 36Vdc				
Profile:	Prominent /3 Flush /1				
Illumination Type	/1	Dot			
	/2	Ring			
LED Ratings					
Part No.					
Colours	/RD	/GN	/BL	/OR	/AM
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				

12mm Switches  
**Miniature Domed Metal Vandal Resistant**

None Illuminated - Metal Dome

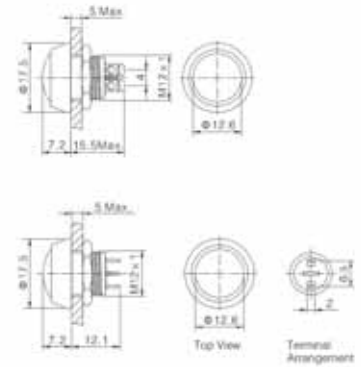


MMP0120



MMP0120

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



**Specification**

**MMP0120/S**

**MMP0120/N**

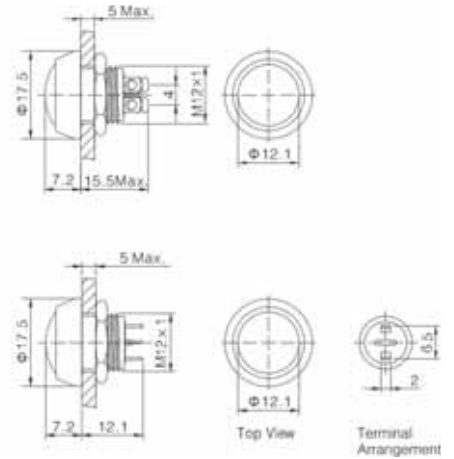
Terminations:	P - Solder Tabs S - Screw Terminal	P - Solder Tabs S - Screw Terminal
Switching:	S.P. Push to make	S.P. Push to make
Max Rating:	2A, 36Vdc	2A, 36Vdc
Contact Resistance:	≥50MΩ	≥50MΩ
Insulation Resistance:	≥1000MΩ	≥1000MΩ
Dielectric Strength:	1500V, AC 50Hz, 5 Secs	1500V, AC 50Hz, 5 Secs
Operating Temp Range:	*-25°C ~ +55°C	*-25°C ~ +55°C
<b>Operations</b>		
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
<b>Materials</b>		
Mouldings:	PBT	PBT
Tags/Terminations:	Brass, Silver Plated	Brass, Silver Plated
Switch Body & Button:	/SS Stainless Steel	/N - Nickel Plated Brass
Contacts:	Silver Alloy	Silver Alloy
Thread size:	M12x1	M12x1
RoHS	Compliant	Compliant

MMP0120/A



MMP0120/A

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



## Specification

## MMP0120/A

Terminations:	P - Solder Tabs S - Screw Terminal
Switching:	S.P. Push to make
Max Rating:	2A, 36Vdc
Contact Resistance:	≥50MΩ
Insulation Resistance:	≥1000MΩ
Dielectric Strength:	1500V, AC 50Hz, 5 Secs
Operating Temp Range:	*-25°C ~ +55°C
<b>Operations</b>	
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
<b>Materials</b>	
Mouldings:	PBT
Tags/Terminations:	Brass, Silver Plated
Switch Body	/A Black Anodised
Switch Button:	/NB Nickel Plated Brass /RD RED PBT /GN GREEN PBT /BL BLUE PBT /BK BLACK PBT
Contacts:	Silver Alloy
Thread size:	M12x1
RoHS	Compliant

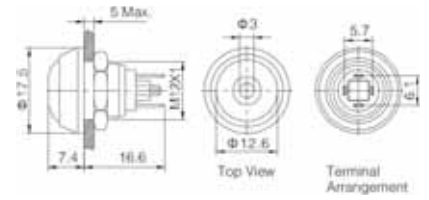


MMPI0120



MMPI0120

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



## Specification

### MMPI0120

Terminations:	P - Solder Tabs				
Switching:	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

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

<b>MMPXXX</b>	<b>/</b>	<b>X</b>	<b>/</b>	<b>X</b>	<b>/</b>	<b>X</b>	<b>/</b>	<b>X</b>	<b>/</b>	<b>X</b>		
<b>Series</b> MMP0120 = Non Illuminated  MMP10120 = Illuminated		<b>Body Material</b> S = Stainless Steel N = Nickel Plated Brass A = Black Anodized		<b>Button Material &amp; Colour</b> SS = Nickel Plated Brass RD = RED PBT GN = GREEN PBT BL = BLUE PBT BK = BLACK PBT		<b>Sealing</b> Blank = IP65 67 = IP67 IP67 (non-illuminated only)		<b>Illumination Colour</b> Blank = None RD = RED GN = GREEN BL = BLUE AM = AMBER/YELLOW OR = ORANGE		<b>Lamp Voltage</b> Blank = None 012 = 12V 024 = 24V Other voltages require external resistor		<b>Termination</b> S = Screw Terminals P= Solder Terminals (2.0mm x 0.5mm)

Examples:

- MMP0120/SSSS = 12mm, Non Illuminated, All Stainless Steel, IP65, Screw Terminals
- MMP0120/ARD67/S = 12mm, Non Illuminated, Black anodized body, Red PBT button, IP67, screw terminals
- MMP10120/NNBRD012P = 12mm, Illuminated, All Nickel Plated Brass with 12V Red Dot illumination, IP65, Pin Terminals

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



## 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)

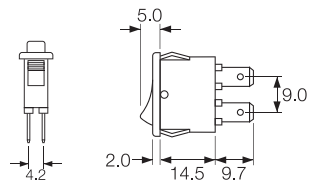
UL CSA 15A 250Vac (Twin unit is 10A 250Vac)  
UL CSA 125Vac 1/2hp  
UL 100°C, file E45221, CSA file LR10990

3mm contact gap.

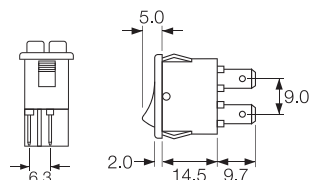
Terminal	Function	Rocker	Body	Body Colour	Rocker Colour								
<b>H</b>	<p>Switches are ON when pressed over terminal 1</p>		<p>A. Single pole</p> <p>*Optional profile for orientation</p>	<b>B</b> Black	<b>B</b> Black								
<b>T</b>	<p><b>8800</b></p> <p>ON - OFF Single pole</p> <p>Switches are ON when pressed over terminal 1 or 3</p>		<p>B. Single pole - Twin</p> <p>*Optional profile for orientation</p>	<b>R</b> Red	<b>R</b> Red								
<b>X</b>	<p><b>8800</b></p> <p>ON - OFF Twin pole</p>		<p>Panel thickness</p> <table border="0"> <tr> <td>0.75-1.2</td> <td>Dim X</td> </tr> <tr> <td>1.25-1.99</td> <td>19.1/19.2</td> </tr> <tr> <td>2.00-3.00</td> <td>19.3/19.4</td> </tr> <tr> <td></td> <td>19.7/19.8</td> </tr> </table> <p>Cut-outs must be punched in the direction of insertion</p>	0.75-1.2	Dim X	1.25-1.99	19.1/19.2	2.00-3.00	19.3/19.4		19.7/19.8	<b>W</b> White	<b>W</b> White
0.75-1.2	Dim X												
1.25-1.99	19.1/19.2												
2.00-3.00	19.3/19.4												
	19.7/19.8												

## Dimensions

8800VA (H terminals shown)



8800V/8800VA (H terminals shown)



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

## Examples



☐ X8800VA



☐ X8800VA  
☐ T8800VA - - -



☐ X8800VA  
☐ T8800VA - - -



☐ H8800V/H8800VA  
☐ T8800V/T8800VA



☐ H8800V/H8800VA  
☐ T8800V/T8800VA

# 8500 Rocker Switches - Miniature

10A 250Vac Single & Double Pole



## 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

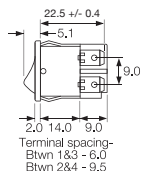
- 10(6)A 250Vac T125 IE4 (non lit types)  
6(4)A 250Vac T125 5E4 (50,000 Operations)  
10(6)A 250Vac T100 (lit types)
- UL CSA 15A Non Ind 250Vac, 14A Ind 250Vac, 10A 277Vac  
UL CSA 250Vac 1/2hp, 125Vac 1/4hp  
UL 105°C, (non lit) file E45221, CSA file LR10990

3mm contact gap.

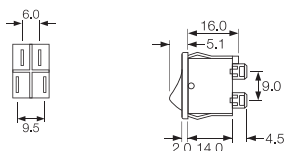
Terminal	Function	Rocker	Body	Body Colour	Rocker Colour								
<p><b>H</b></p> <p>4.8 x 0.8 8.5</p>	<p>ON OFF Switches are ON when pressed over terminal 1</p>	<p><b>H</b> Slotted for custom caps</p> <p>Slots for snap-in buttons</p>	<p><b>B</b> Standard body with terminal barrier</p> <p>Panel cut out: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

## Dimensions

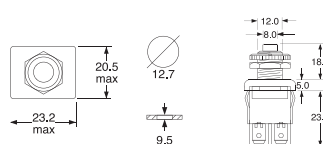
“B” body with barrier for H, T and K terminals



“BC” body w/o barrier primarily for L or R terminals (can be used for all terminals)



‘PO’ Actuator and body - push button function (8500 only)



Insert Colour	Lamp Voltage	Legend	Legend Colour	Options
<b>X</b> Rocker Only	<b>Blank</b>	<b>Blank</b>	<b>Blank</b>	Finish Matt finish only.
<b>R</b> Red	<b>2</b> 125V Neon	<b>076</b>	<b>B</b> Black	Colour Call sales for custom colours. A full range is available for large orders.
<b>W</b> White	<b>3</b> 250V Neon		<b>W</b> White	Legend printing Select from the examples or call sales for custom legends.
<b>Blank</b> Leave blank for other Rocker types	<b>7</b> 12V Filament			Lamp voltage Call sales for details of available voltages.
	<b>8</b> 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



## 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

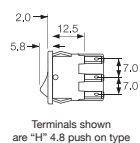
- 10(4)A 250Vac T90 (unless noted below)
- UL CSA See ratings below  
UL 65°C, file E45221, CSA file LR10990
- 3mm contact gap except where marked  $\mu$ .

Terminal	Function	UL	Rocker	Body	Body Colour																
<p><b>H</b></p> <p>4.8 x 0.8 7.4</p> <p><b>T</b></p> <p>Ø2.2 6.4 3.5 x 0.8 Solder</p> <p><b>X</b></p> <p>3.7 5.3 PCB 0.85sq</p> <p>Double Pole switches with "X" terminals are supplied without terminal barriers</p>	<p>Approvals &amp; ratings vary with function</p>	<p>ON OFF Switches are ON when pressed over terminal 3</p>	<p><b>V</b> Curved</p> <p><b>V</b> Curved (lit)</p> <p><b>F</b> Flat Indicator only (Single pole)</p>	<p><b>B</b> Single pole</p> <p>Panel cut out: 12.9 x X Bezel: 15.0 x 21.0</p> <p>Single Pole dimensions for snap-in fixing</p> <table border="1"> <tr> <td>Panel thickness</td> <td>Dim X</td> </tr> <tr> <td>0.75-1.25</td> <td>19.1/19.2</td> </tr> <tr> <td>1.25-1.99</td> <td>19.3/19.4</td> </tr> <tr> <td>2.00-3.00</td> <td>19.7/19.8</td> </tr> </table> <p><b>B</b> (Double Pole) with terminal barrier</p> <p>Panel cut out: 21.9 x X Bezel: 24.0 x 21.0</p> <p>Double Pole dimensions for snap-in fixing</p> <table border="1"> <tr> <td>Panel thickness</td> <td>Dim X</td> </tr> <tr> <td>0.75-1.24</td> <td>19.1/19.2</td> </tr> <tr> <td>1.25-1.99</td> <td>19.3/19.4</td> </tr> <tr> <td>2.00-3.00</td> <td>19.7/19.8</td> </tr> </table> <p>Cut-outs must be punched in the direction of insertion</p>	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	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	<p><b>B</b> Black</p> <p><b>R</b> Red</p> <p><b>W</b> White</p>
	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																			
	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																			
	<p><b>8600</b></p> <p>10(4)A 16A 250V, 10A 277V 1/2HP 277V, 1/4HP 125V ON - OFF</p>	<p><b>8650</b></p> <p>10(4)A 10A 277V 1/2HP 277V, 1/4HP 125V ON - OFF</p>	<p><b>8601</b></p> <p>6(1)A 16A 250V, 6A 277V ON - OFF (momentary ON)</p>	<p><b>8651</b></p> <p>6(1)A 6A 277V ON - OFF (momentary ON)</p>	<p><b>8602</b></p> <p>10A 6A 277V ON - OFF (momentary OFF)</p>	<p><b>8652</b></p> <p>10(4)A 6A 277V ON - OFF (momentary OFF)</p>															
<p><b>N/A</b></p> <p>ON - OFF Lit</p>	<p><b>8653</b></p> <p>10(4)A 6A 277V ON - OFF Lit</p>	<p><b>8610</b></p> <p>6(1)A 10A 277V 1/2HP 277V, 1/4HP 125V ON - ON</p>	<p><b>8660</b></p> <p>6(1)A 10A 277V 1/2HP 277V, 1/4HP 125V ON - ON</p>	<p><b>8611</b></p> <p>6A 277V ON - ON (momentary 1 side)</p>	<p><b>8661</b></p> <p>6A 277V ON - ON (momentary 1 side)</p>																
<p><b>8620 <math>\mu</math></b></p> <p>ON - OFF - ON</p>	<p><b>8670 <math>\mu</math></b></p> <p>ON - OFF - ON</p>	<p><b>8630</b></p> <p>6(1)A UL E63363 CSA LR29381 KEMA-KUER Indicators</p>	<p><b>N/A</b></p>																		

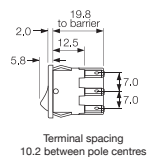



## Dimensions

Single pole



Double pole



Rocker Colour	Lamp Voltage	Legend	Legend Colour	Options
Un-Lit <b>B</b> Black	Blank	Blank	Blank	<p>Finish Matt finish only.</p> <p>Colour Call sales for custom colours. A full range is available for large orders.</p> <p>Legend printing Select from the examples or call sales for custom legend.</p> <p>Lamp voltage Call sales for details of available voltages.</p> <p>Blanking plate A8634FB Dummy unit to fill unused panel holes. Single pole size only.</p> <p>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.</p>  <p>Single Pole options Most switches shown can have single pole switching in double pole bodies.</p>
<b>R</b> Red	<b>2</b> 125V Neon	<b>076</b>	<b>B</b> Black	
<b>W</b> White	<b>3</b> 250V Neon		<b>W</b> White	
Lit <b>A</b> Amber	<b>7</b> 12V Filament			
<b>G</b> Green	<b>8</b> 24V Filament			
<b>C</b> Clear				
<b>R</b> Red				

## Examples



H8600VB ---  
T8600VB ---



H8600VB ---  
T8600VB ---



H8630FB ---  
T8630FB ---



H8650VB ---  
T8650VB ---



H8660VB ---  
T8660VB ---



H8653VB ---  
T8653VB ---

# 8620 & 8670 Rocker Switches

3 Positions - 10A 250Vac



## Key Features

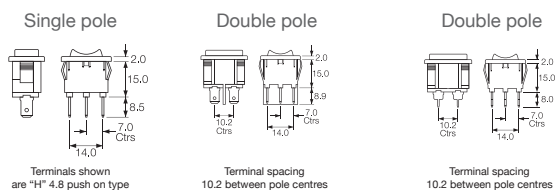
- 3 position miniature rocker switch
- Ratings up to 15A, 250Vac
- Single & double pole
- Centre off switching
- Push on, solder and PCB terminals
- Matching indicators
- Panel cut out: single: 19.3 x 12.9 double: 19.3 x 21.9


## Approvals and specifications

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

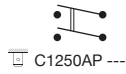
## Dimensions



Lamp Voltage	Legend	Legend Colour	Options
Blank	Blank	Blank	<p>Finish Matt finish only.</p> <p>Colour Call sales for custom colours. A full range is available for large orders.</p> <p>Legend printing Select from the examples or call sales for custom legend.</p> <p>Lamp voltage Call sales for details of available voltages.</p> <p>Blanking plate A8634FB Dummy unit to fill unused panel holes. Single pole size only.</p> <p>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.</p>
<b>2</b> 125V Neon	<b>076</b>	<b>B</b> Black	
<b>3</b> 250V Neon		<b>W</b> White	
<b>7</b> 12V Filament			
<b>8</b> 24V Filament			<p>Single Pole options Most switches shown can have single pole switching in double pole bodies.</p>

# 1250 Rocker Switches

10A 250Vac



## Key Features

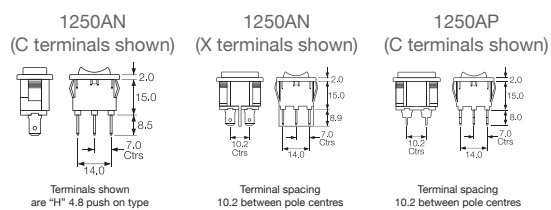
- Standard rocker switch
- Double pole in single pole body
- Snap in or sub panel mount
- Integral terminal barrier
- Push on or PCB terminals
- Panel cut out: 27.2 x 12.4 (snap in) 26.3 x 12.4 (sub panel mount)

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

## Approvals and specifications

-  10(6)A 250Vac T100  
 6A 400Vac T100  
 1A 30Vdc
-  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



Legend	Legend Colour	Options
Blank	Blank	<p><b>Finish</b> Matt finish only.</p> <p><b>Colour</b> Call sales for custom colours. A full range is available for large orders.</p> <p><b>Legend printing</b> Select from the examples or call sales for custom legend.</p>
<b>085</b>	<p><b>B</b> Black</p> <p><b>W</b> White</p>	

# 6000 SP Splash Resistant Rocker Switches

16A 250Vac



## 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.



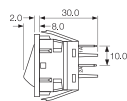
Terminal	Function	Rocker	Body	Body Colour	Rocker Colour	Lamp Voltage
<b>C</b>  6.3 x 0.8 9.7	<b>6000</b>  ON - OFF	<b>A</b> Softline Matt 	<b>L</b> Panel cut-out ** Bezel  30.0/30.1 11.0/11.1 14.0 31.5 R2.0 Cut-outs must be punched in the direction of insertion	<b>B</b> Black    <b>W</b> White	Lit (DP)  <b>A</b> Amber	Blank
	<b>6001</b>  ON - OFF (momentary ON)				<b>C</b> Clear   <b>2</b> 125V Neon	
<b>H</b>  4.8 x 0.8 9.7	<b>6002</b>  ON - OFF (momentary OFF)	<b>A</b> Softline Matt 	<b>L</b> Panel cut-out ** Bezel  30.0/30.1 11.0/11.1 14.0 31.5 R2.0 Cut-outs must be punched in the direction of insertion	<b>B</b> Black    <b>W</b> White	<b>G</b> Green   <b>R</b> Red	<b>3</b> 250V Neon
	<b>6003</b>  ON - OFF Lit	<b>P</b> Lit window Matt 			<b>5</b> 12Vdc LED (P Rocker)	
<b>S</b>  4.8 x 0.8 9.7 Screw & Clamp N/A for assemblies with 3 terminals	<b>6008</b>  ON - OFF Lit (Unswitched neutral)	<b>P</b> Lit window Matt 	<b>L</b> Panel cut-out ** Bezel  30.0/30.1 11.0/11.1 14.0 31.5 R2.0 Cut-outs must be punched in the direction of insertion	<b>B</b> Black   <b>R</b> Red   <b>W</b> White	Lit (DP)	<b>6</b> 24Vdc LED (P Rocker)
	<b>6009</b>  ON - OFF (momentary ON) Lit (Unswitched neutral)	<b>R</b> Red			<b>7</b> 12V Filament	
	<b>6010</b>  ON - ON	<b>W</b> White			<b>8</b> 24Vdc Filament	
	<b>6011</b>  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



**Panel thickness**  
L 0.75 to 2.5mm  
\*\* For cut-out details on momentary switches call sales

Legend	Legend Colour	Options
Blank	Blank	<b>G74</b> Protective Cover
<b>1223</b>	<b>B</b> Black	<p><b>Finish</b> Matt is standard.</p> <p><b>Colour</b> Call sales for custom colours. A full range is available for large orders.</p> <p><b>Legend printing</b> Select from the examples or call sales for custom legends.</p> <p><b>Lamp voltage</b> Call sales for details.</p> <p><b>Protective cover</b> A snap on cover is available (add G after body code), this reduces panel thickness by 2mm.</p>  <p>Panel sealing washer W46 is available, this reduces panel thickness by 1.2mm.</p> <p>Covers are not suitable for momentary types. For all options call the factory</p>
	<b>W</b> White	

## Examples



☐ C6000AL - - -



☐ C6000AL - - -



☐ C6010AL - - -



☐ C6003AL - - -



☐ C6003PL - - -



☐ C6030AL - - -

# 6050 DP Splash Resistant Switches

& Twin Switches - 16A 250Vac



## Key Features

- Ratings up to 20A, 277V ac
- Positive switch action
- Distinctive styling
- Illuminated & non-illuminated
- Double pole
- DC LED Illumination Available
- 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 Switches)  
20A 277Vac, 250Vac 11/2hp, 125Vac 1hp

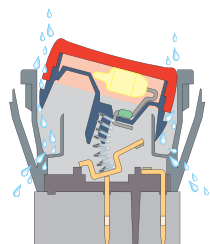
UL 100°C, file E45221, CSA file LR10990

3mm contact gap with Positive Break switching.

Terminal	Function	Rocker	Body	Body Colour								
<p><b>C</b></p> <p>6.3 x 0.8</p>	<p><b>6050</b></p> <p>ON - OFF</p>	<p><b>A</b></p> <p>Softline Matt</p>	<p><b>L</b></p> <p>Double Pole</p> <p>Panel cut-out ** Bezel</p>	<p>Lit (DP)</p> <p><b>A</b> Amber</p> <p><b>C</b> Clear</p>								
	<p><b>6051</b></p> <p>ON - OFF (momentary ON)</p>				<p><b>6059</b></p> <p>ON - OFF (Single pole) (momentary ON) Isolated light</p>	<p><b>L</b></p> <p>Twin units</p> <p>Contact sales for information on splash resistance and IP ratings</p>	<p><b>G</b> Green</p> <p><b>R</b> Red</p>					
	<p><b>6052</b></p> <p>ON - OFF (momentary OFF)</p>				<p><b>A</b></p> <p>Softline Matt</p>			<p><b>P</b></p> <p>Lit window Matt</p>	<p>Un-Lit (DP)</p>			
	<p><b>6053</b></p> <p>ON - OFF Lit</p>				<p><b>P</b></p> <p>Lit window</p>					<p><b>B</b> Black</p> <p><b>R</b> Red</p>		
	<p><b>6054</b></p> <p>ON - OFF (momentary ON) Lit</p>				<p><b>S</b></p> <p>4.8 x 0.8</p> <p>Screw &amp; Clamp N/A for assemblies with 3 terminals</p>						<p><b>W</b> White</p>	
	<p><b>6055</b></p> <p>ON - OFF (Single pole) (momentary ON) Lit</p>											<p><b>6056</b></p> <p>ON - OFF (Single pole) Isolated light</p>
	<p><b>6057</b></p> <p>ON - OFF Isolated light</p>											
	<p><b>6058</b></p> <p>ON - OFF (Single pole) Lit</p>											



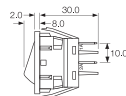
## Integral Splash Resistance



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



### Panel thickness

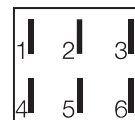
L 0.75 to 2.5mm


\*\* 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.



Rocker Colour	Lamp Voltage	Legend	Legend Colour	Options
<b>B</b> Black	Blank	Blank	Blank	<p><b>G74</b> Protective Cover</p> <p>Finish Matt is standard.</p> <p>Colour Call sales for custom colours. A full range is available for large orders.</p> <p>Legend printing Select from the examples or call sales for custom legends.</p> <p>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.</p>  <p>Panel sealing washer W42 is available. This reduces panel thickness by 1.00mm. Covers are not suitable for momentary types.</p> <p>IP Ratings Call the sales for details.</p> <p>Terminal Link P1067 connects the poles of a double pole switch or twin unit.</p> <p># Mounting orientation may affect IP rating.</p>
<b>R</b> Red	<b>2</b> 125V Neon	<b>1223</b>	<b>B</b> Black	
<b>W</b> White	<b>3</b> 250V Neon		<b>W</b> White	
	<b>5</b> 12Vdc LED (P Rocker)			
	<b>6</b> 24Vdc LED (P Rocker)			
	<b>7</b> 12V Filament			
	<b>8</b> 24Vdc Filament			

## Examples



▣ C6050AL - - -

▣ C6053AL - - -

▣ C6053PL - - -

▣ C6000A/C6000AL

▣ C6003P/C6003PL

▣ C6003P/C6030AL

# 1500 Standard & 1300 High Inrush Switches

150A to EN61058-1 and 16A 250Vac



## 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 Available for "P" Rocker
- Panel cut out 'A' style: 27.3 x 12.3mm

## Approvals and specifications

- UL 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	Rocker Colour
<b>C</b> 	<b>Standard 1500</b> ON - OFF	<b>A</b> 	Panel cut-out Cut-outs must be punched in the direction of insertion <b>A</b> 	<b>M</b> Matt	<b>B</b> Black	Un-Lit
<b>H</b> 	<b>1501</b> HP rating N/A ON - OFF (momentary ON)	<b>B</b> 	<b>A</b> 	<b>G</b> Gloss	<b>R</b> Red	<b>B</b> Black
<b>K</b> 	<b>1502</b> HP rating N/A ON - OFF (momentary OFF)	<b>H</b> 	<b>B</b> 	Applies to both Rocker & Body	<b>R</b> Red	<b>R</b> Red
<b>T</b> 	<b>1510 µ</b> HP rating N/A ON - ON	<b>V</b> 	<b>L</b> 		<b>W</b> White	<b>W</b> White
<b>U</b> 	<b>1511 µ</b> HP rating N/A ON - ON (momentary 1 side)	<b>W</b> 	<b>Q</b> 			<b>A</b> Amber
<b>X</b> 	<b>1520 µ</b> 125V & 250V 1/2 HP H terminal rated T100 only ON - OFF - ON	<b>X</b> 	<b>R</b> 			<b>C</b> Clear
<b>U</b> 	<b>1521 µ</b> HP rating N/A H terminal rated T100 only ON - OFF - ON (momentary 1 side)	<b>F</b> 	<b>T</b> 			<b>G</b> Green
<b>U</b> 	<b>1522 µ</b> HP rating N/A H terminal rated T100 only ON - OFF - ON (momentary 2 sides)	<b>A</b> 				<b>R</b> Red
<b>X</b> 	<b>0430</b> HP rating N/A H terminal rated T100 only <b>High Inrush 1300</b> ON - OFF					

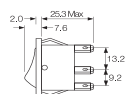
UL CSA 20A 250Vac 1hp, 125Vac 1/2hp  
UL 85°C, file E45221, CSA file LR10990

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

BioCote antimicrobial additive. Independently verified to ISO22196:2007.

3mm contact gap except if marked  $\mu$ .

### Dimensions

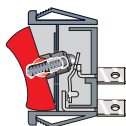


**Panel thickness**  
A,Q 0.75 to 3.3mm  
L,B,T 0.75 to 2.5mm  
R 0.75 to 3.0mm

\* 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.

Lamp Voltage	Insert Colour	Legend	Legend Colour	Options
Blank	Blank	Blank	Blank	Finish Matt is standard.
<b>2</b> 125V Neon	<b>R</b> Red	<b>602A</b>	<b>B</b> Black	Colour Call sales for custom colours. A full range is available for large orders.
<b>3</b> 250V Neon	<b>W</b> White		<b>W</b> White	Legend printing Select from the examples or call sales for custom legends.
<b>7</b> 12V Filament				Lamp voltage Call sales for details.
<b>8</b> 24Vdc Filament				Blanking plates A0434 - - Dummy units to fill unused panel holes.
				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.
				 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.
				For all options call sales.

### Examples



C1500AR ---  
T1500AR ---



C1500AL ---  
T1500AL ---



C1500XL ---  
T1500XL ---



C1510AL ---  
T1510AL ---



C1520AL ---  
T1520AL ---



C0430AL ---  
T0430AL ---

# 5500 Lit Rocker Series

10A 250Vac



## Key Features

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

## 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

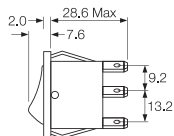
μ contact gap.

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

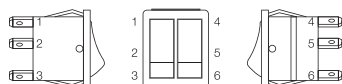
Terminal	Function	Rocker	Body	Body Colour	Rocker Colour
<p><b>C</b></p> <p>6.3 x 0.8</p>	<p>Approvals &amp; ratings vary with function ON OFF Switches - ON when pressed over terminal 3</p>	<p><b>A</b> Softline (Matt only)</p>	<p><b>A</b> Panel Cut - outs</p> <p><b>Bezel</b></p>	<p><b>B</b> Black</p>	<p>Un-Lit</p> <p><b>B</b> Black</p>
<p><b>H</b></p> <p>4.8 x 0.8</p>	<p><b>5500 μ</b></p> <p>ON - OFF Single pole</p>	<p><b>P</b> Lit window (Matt only)</p>	<p><b>B</b></p> <p><b>Bezel</b></p>	<p><b>W</b> White</p>	<p><b>R</b> Red</p> <p><b>W</b> White</p>
<p><b>T</b></p> <p>Ø2.1</p> <p>Solder</p>	<p><b>5503 μ</b></p> <p>ON - OFF Lit Switched neutral</p>	<p><b>L</b></p>	<p><b>L</b></p> <p><b>Bezel</b></p>	<p><b>W</b> White</p>	<p>Lit</p>
<p><b>T</b></p> <p>Ø2.1</p> <p>Solder</p>	<p><b>5508 μ</b></p> <p>ON - OFF Lit Unswitched neutral</p>	<p><b>Q</b></p>	<p><b>Q</b></p> <p><b>Bezel</b></p>	<p><b>A</b> Amber</p> <p><b>C</b> Clear</p>	<p><b>A</b> Amber</p> <p><b>C</b> Clear</p>
<p><b>T</b></p> <p>Ø2.1</p> <p>Solder</p>	<p><b>5508 μ</b></p> <p>ON - OFF Lit Unswitched neutral</p>	<p><b>R</b></p>	<p><b>R</b></p> <p><b>Bezel</b></p>	<p><b>G</b> Green</p>	<p><b>G</b> Green</p>
<p><b>T</b></p> <p>Ø2.1</p> <p>Solder</p>	<p><b>5508 μ</b></p> <p>ON - OFF Lit Unswitched neutral</p>	<p><b>T</b></p>	<p><b>T</b></p> <p><b>Bezel</b></p>	<p><b>R</b> Red</p>	<p><b>R</b> Red</p>

## Dimensions

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




**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.



Terminal spacing -  
 Poles 10.8 between centres (twin units)

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.
<b>2</b> 125V Neon	<b>602A</b>	<b>B</b> Black	Colour Call factory for custom colours. A full range is available for large orders.
<b>3</b> 250V Neon			Legend printing Select from the examples or call factory for custom legends.
<b>5</b> 12Vdc LED (P Rocker) IF = 20-30mA			Lamp voltage Call factory for details.
<b>6</b> 24Vdc LED (P Rocker) IF = 20-30mA			Blanking plate A0434 - - (SP) A0494 - - (DP) Dummy units to fill unused panel holes.
<b>7</b> 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 1.00mm.
<b>8</b> 24Vdc Filament			
			Panel sealing washers W46 (Single Pole) and W42 (Double Pole) are available for these body types, this reduces panel thickness by 2mm.
			For all options call the factory.

## Examples



☐ C5503AL - - -



☐ C5500AL - - -



☐ C5503PL - - -



☐ C5503A/C5430AL



☐ C5503A/C5503AL



☐ C5503P/C5503PL

# 1500 Twin Units Switches and Indicators

16A 250Vac



## 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

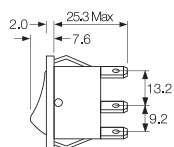
- 16(4)A 250Vac T125
- UL CSA 16A 250Vac
- UL CSA (2 posn) 250Vac 1hp, 125Vac
- 1/2hp, (3 posn) 250 Vac
- 1/2hp, 125Vac 1/4hp
- UL 85°C, file E45221, CSA file LR10990

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

Terminal	Function	Rocker	Body	Finish	Body Colour	Rocker Colour
<p>C</p>	<p>Approvals &amp; ratings vary with function ON OFF Switches - ON when pressed over terminal 1 or 4</p>	<p>A</p> <p>Softline (Matt only)</p>	<p>Panel Cut - outs      Bezel</p> <p>A</p> <p>Gloss or Matt</p> <p>B</p> <p>Matt only</p> <p>L</p> <p>Matt only</p> <p>Q</p> <p>Gloss or matt</p> <p>R</p> <p>Matt only</p> <p>T</p> <p>Matt only</p>	<p>M</p> <p>Matt</p> <p>G</p> <p>Gloss</p> <p>Applies to both Rocker &amp; Body</p>	<p>B</p> <p>Black</p> <p>W</p> <p>White</p>	<p>Un-Lit</p> <p>B</p> <p>Black</p> <p>R</p> <p>Red</p> <p>W</p> <p>White</p> <p>Lit</p> <p>A</p> <p>Amber</p> <p>C</p> <p>Clear</p> <p>G</p> <p>Green</p> <p>R</p> <p>Red</p>
<p>H</p>	<p>1500</p> <p>ON - OFF</p>	<p>B</p> <p>Softline (Matt only)</p>	<p>B</p> <p>Matt only</p>	<p>G</p> <p>Gloss</p>	<p>W</p> <p>White</p>	<p>R</p> <p>Red</p>
<p>T</p>	<p>1510 <math>\mu</math></p> <p>ON - ON</p>	<p>W</p> <p>Softline (Matt only)</p>	<p>L</p> <p>Matt only</p>	<p>G</p> <p>Gloss</p>	<p>W</p> <p>White</p>	<p>Lit</p>
<p>K</p>	<p>0430</p> <p>Indicator</p>	<p>X</p> <p>Softline (Matt only)</p>	<p>Q</p> <p>Gloss or matt</p>	<p>G</p> <p>Gloss</p>	<p>A</p> <p>Amber</p>	<p>A</p> <p>Amber</p>
<p>X</p>	<p>Indicator</p>	<p>A</p> <p>Softline (Matt only)</p>	<p>R</p> <p>Matt only</p>	<p>G</p> <p>Gloss</p>	<p>W</p> <p>White</p>	<p>A</p> <p>Amber</p>
			<p>T</p> <p>Matt only</p>	<p>G</p> <p>Gloss</p>	<p>W</p> <p>White</p>	<p>R</p> <p>Red</p>

## Dimensions

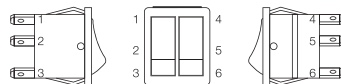
Panel thickness  
 A,Q 0.75 to 3.3mm  
 L,B,T 0.75 to 2.5mm  
 R 0.75 to 3.0mm



Call sales for terminal spacing details

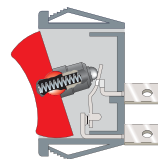
## Twin units

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

## Examples



☐ C1500A/C1500AL



☐ C1500A/C0430AL



☐ C1500X/C1500XL



☐ C1520A/C1510AL



☐ C1500A/C1520AL



☐ C0430A/C0430AL

# 1550 Standard and 1350 High Inrush

150A to EN61058-1 and 16A 250Vac



## 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
<p><b>C</b></p> <p>6.3 x 0.8</p>	<p><b>Standard 1550</b></p> <p>ON - OFF</p> <p><b>1551</b> HP rating N/A</p> <p>ON - OFF (momentary ON)</p>	<p><b>A</b> Softline Matt</p> <p><b>B</b> Splash resistant Softline</p>	<p>Panel cut-out Bezel Cut-outs must be punched in the direction of insertion</p> <p><b>A</b></p> <p>Gloss or Matt</p>
<p><b>H</b></p> <p>4.8 x 0.8*</p>	<p><b>1552</b> HP rating N/A</p> <p>ON - OFF (momentary OFF)</p> <p><b>1553</b> Not W, X or B rocker</p> <p>ON - OFF Lit</p>	<p><b>V</b> Curved Matt or Gloss Gloss only Lit (not momentary)</p>	<p><b>B</b></p> <p>Matt only</p>
<p><b>K</b></p> <p>2.8 x 0.8*</p>	<p><b>1560 μ</b></p> <p>ON - ON</p> <p><b>1561 μ</b> HP rating N/A</p> <p>ON - ON (Momentary 1 Side)</p>	<p><b>W</b> Splash resistant Curved</p>	<p><b>L</b></p> <p>Matt only</p>
<p><b>T</b></p> <p>Ø2.1</p> <p>Solder</p>	<p><b>1562 μ</b> In house tests only</p> <p>2 Circuit ON - ON</p>	<p><b>P</b> Lit window Matt Lit (not momentary)</p>	<p><b>Q</b></p> <p>Gloss or matt</p>
<p><b>U</b></p> <p>Ø2.1</p> <p>Right angle "T" solder terminal</p>	<p><b>1570 μ</b> 125V &amp; 250V 1/2 HP H terminal rated T100 only H terminal rated T100 only</p> <p>ON - OFF - ON</p>	<p><b>X</b> Two colour Matt (ON OFF only - not momentary)</p>	<p><b>R</b> Round</p> <p><b>R</b></p> <p>Matt only</p>
<p><b>X</b></p> <p>Ø2.1</p> <p>PCB 0.8Sq*</p>	<p><b>1571 μ</b> HP rating N/A H terminal rated T100 only</p> <p>ON - OFF - ON (momentary 1 side)</p> <p><b>1572 μ</b> HP rating N/A H terminal rated T100 only</p> <p>ON - OFF - ON (momentary 2 sides)</p>	<p><b>F</b> Flat Lens Gloss (0480)</p> <p><b>A</b> Softline lens Matt (0480 only) as F but with raised profile</p>	<p><b>T</b></p> <p>Matt only</p>



## 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

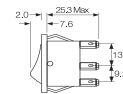
3mm contact gap except if marked  $\mu$ .

## 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



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
<b>M</b> Matt	<b>B</b> Black	Un-Lit <b>B</b> Black	— Blank	— Blank	— Blank	— Blank	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.  Blanking plates A0494 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 1mm.    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.
<b>G</b> Gloss	<b>W</b> White	<b>R</b> Red	<b>R</b> Red	<b>2</b> 125V Neon	<b>602A</b>	<b>B</b> Black	
Applies to both Rocker & Body		<b>W</b> White	<b>W</b> White	<b>3</b> 250V Neon		<b>W</b> White	
		Lit <b>A</b> Amber	<b>5</b> 12Vdc LED (P Rocker)				
		<b>G</b> Green	<b>6</b> 24Vdc LED (P Rocker)				
		<b>C</b> Clear	<b>7</b> 12V Filament				
		<b>R</b> Red	<b>8</b> 24Vdc Filament				

## 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 250Vac/250Vdc



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

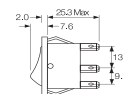
## Splash Resistance

In house test:  
20A 24Vdc— Indicative rating only  
  
3mm contact gap except if marked  $\mu$ .



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.

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

## Examples



C1553AH - - -



C1550AH - - -

# R13 Round Rocker Switches

10A 250Vac



## 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

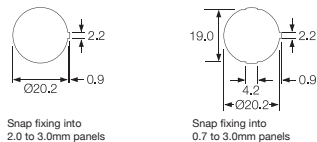
⚡ DP 10(4)A 250Vac T85 1E4

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

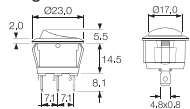
RoHS compliant  
 Single pole has  $\mu$  contact gap.

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

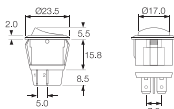
## Dimensions



### Single Pole



### Double Pole



### Protective cover L188



## 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
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## Product details



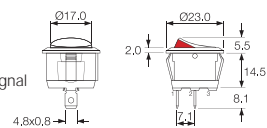
  
 SP ON - OFF  $\mu$   
 Cat no.  
**R13 112A AAA**




  
 SP ON - OFF  $\mu$   
 Lit 230V  
 Cat no.  
**R13 112B NAC**




  
 SP ON - OFF  $\mu$   
 Bright colour ON signal  
 Cat no.  
**R13 112A2 - -**




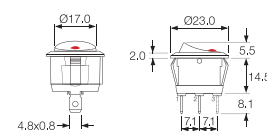
  
 SP ON - OFF  $\mu$   
 Cat no.  
**R13 112A AAB**



  
 SP ON - ON  $\mu$   
 Cat no.  
**R13 112C AAA**




  
 SP ON - OFF  $\mu$   
 Lit Window  
 Cat no.  
**R13 112B2 - -**




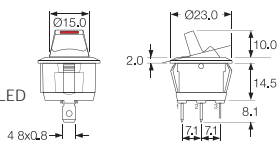
  
 SP ON - OFF  $\mu$   
 Lit 230V  
 Cat no.  
**R13 112B NAA**




  
 SP ON - OFF - ON  $\mu$   
 Cat no.  
**R13 112D AAA**



  
 12  
 SP ON - OFF  $\mu$   
 Paddle tip has red LED  
 Cat no.  
**R13 112LP - -**




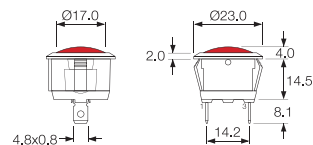
  
 SP ON - OFF  $\mu$   
 Lit 230V  
 Cat no.  
**R13 112B NAB**



SP ON - OFF  $\mu$   
 (Momentary ON)  
 Cat no.  
**R13 208F AAA\***



  
 Indicator light  
 Cat no.  
**R9 92B - - -**



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



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

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: 12.7mm diameter.
- Sealing accessories available
- Quick Connect, Solder, Screw and PCB Termination Options



# 3900 Metal Toggle Switches

16A 250Vac - IP67 Sealed Versions



## 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
<p><b>C</b></p> <p>6.3 x 0.8</p>	<p>Single Pole</p> <p><b>3900</b> ON - OFF</p> <p><b>3901</b> ON - OFF (momentary ON)</p> <p><b>3902</b> ON - OFF (momentary OFF)</p>	<p><b>A</b></p> <p>Metal toggle finish is nickel plate</p> <p><b>B</b></p> <p>Metal toggle finish is nickel plate</p> <p><b>D</b></p> <p><b>E</b></p> <p>Metal toggle finish is nickel plate</p> <p><b>F</b></p> <p>Metal toggle finish is nickel plate</p>	<p><b>A</b> Single pole Thread: 15/32" x 32TPI</p> <p><b>E</b> Panel sealed, single pole Thread: 15/32" x 32TPI</p> <p><b>A</b> Double pole, without barrier Thread: 15/32" x 32TPI</p> <p><b>B</b> Double pole, with barrier Thread: 15/32" x 32TPI</p> <p><b>F</b> Panel sealed, double pole, with terminal barrier Thread: 15/32" x 32TPI</p> <p>Switches with F toggles have double pole bodies, regardless of circuit</p> <p><b>G</b> Panel sealed, double pole, without terminal barrier Thread: 15/32" x 32TPI</p>	<p>Neck Seal M539 Actuator is visible</p> <p>Cover M1080</p> <p>Covers have internal nylon nuts</p> <p>M1080-2</p> <p>Covers have internal metal hex nuts</p> <p>Fixing nuts Nickel plated brass are supplied</p> <p>Knurled Front nut Panel thickness 4.0 with backnut</p> <p>Plate P236 Plate SP or DP</p>
<p><b>S</b></p> <p>Screw &amp; Clamp</p>	<p>Double Pole</p> <p><b>3950</b> ON - OFF</p> <p><b>3951</b> ON - OFF (momentary ON)</p> <p><b>3952</b> ON - OFF (momentary OFF)</p> <p><b>3960</b> ON - ON</p> <p><b>3961</b> ON - ON (momentary 1 side)</p> <p><b>3970</b> ON - OFF - ON μ</p> <p><b>3971</b> ON - OFF - ON μ (momentary 1 side)</p> <p><b>3972</b> ON - OFF - ON μ (momentary 2 sides)</p>	<p><b>T</b></p> <p>0 3.1 Solder</p>		

## 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

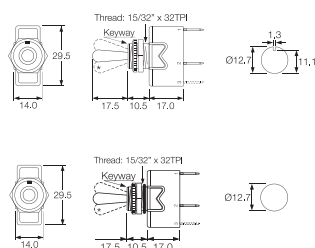
Approvals and ratings vary with function.  
3mm contact gap except where marked  $\mu$ .

\* CSA approval for A and B bodies only

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

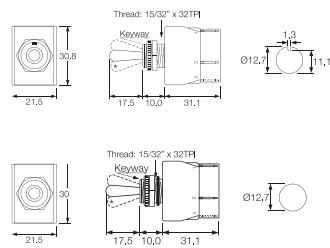
### Single pole

(C terminals shown)



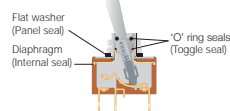
### Double pole

(C terminals shown with barrier)



### Toggle Switch - sealed version

BE and BF types



### Guard TG1-RED



## Examples



C3900BE ---



C3920BA ---



C3950BF ---



C3972BB ---





### 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  $\mu$ .

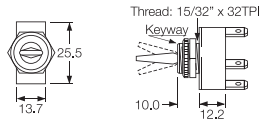
Terminal	Function	Actuator	Body	Options
<p><b>C</b></p>	<p>Single Pole</p> <p><b>1700</b> ON - OFF</p>	<p><b>H</b></p>	<p><b>O</b> Single pole</p> <p>Thread: 15/32" x 32TPI</p>	<p>Neck Seal M539</p> <p>Material - Nitrile (H &amp; R Actuators) Actuator visible</p>
<p><b>H</b></p>	<p>Double Pole</p> <p><b>1750</b> ON - OFF</p>	<p><b>R</b></p>	<p><b>O</b> Double Pole</p> <p>Thread: 15/32" x 32TPI</p>	<p>Cover M1080</p> <p>Material - EPDM (R Actuator only)</p>
<p><b>K</b></p>	<p><b>1710 <math>\mu</math></b> ON - ON</p>	<p>The switch is on between centre terminals (2 &amp; 5) and the terminals over which the lever is positioned.</p>	<p>Panel hole (all types)</p> <p>Panel thickness (Max) Both nuts - 3.5mm Less backnut - 6.5mm</p>	<p>Cover M531</p> <p>Material - PVC (R Actuator only)</p>
<p><b>T</b></p>	<p><b>1720 <math>\mu</math></b> ON - OFF - ON</p>			<p>Fixing nuts (Standard is M506 &amp; T92)</p>
<p><b>X</b></p>	<p><b>1721 <math>\mu</math></b> ON - OFF - ON <math>\mu</math> (momentary 1 side)</p>			<p>T5 Hex brass</p>
<p><b>1722</b> ON - OFF - ON <math>\mu</math> (momentary 2 sides)</p>	<p>T92 Knurled brass - slotted</p>			
				<p>M279 Knurled nylon</p>
		<p>Plate P236 Plate SP or DP</p>		

## Dimensions

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

### Single pole

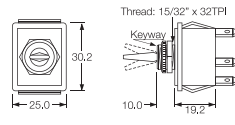
(C terminals shown)



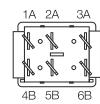
Optional  
F00232PAAA  
plate SP or DP

### Double pole

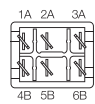
(C terminals shown)



### Without barrier



### With barrier



## Examples



C1700R --



C1700H --



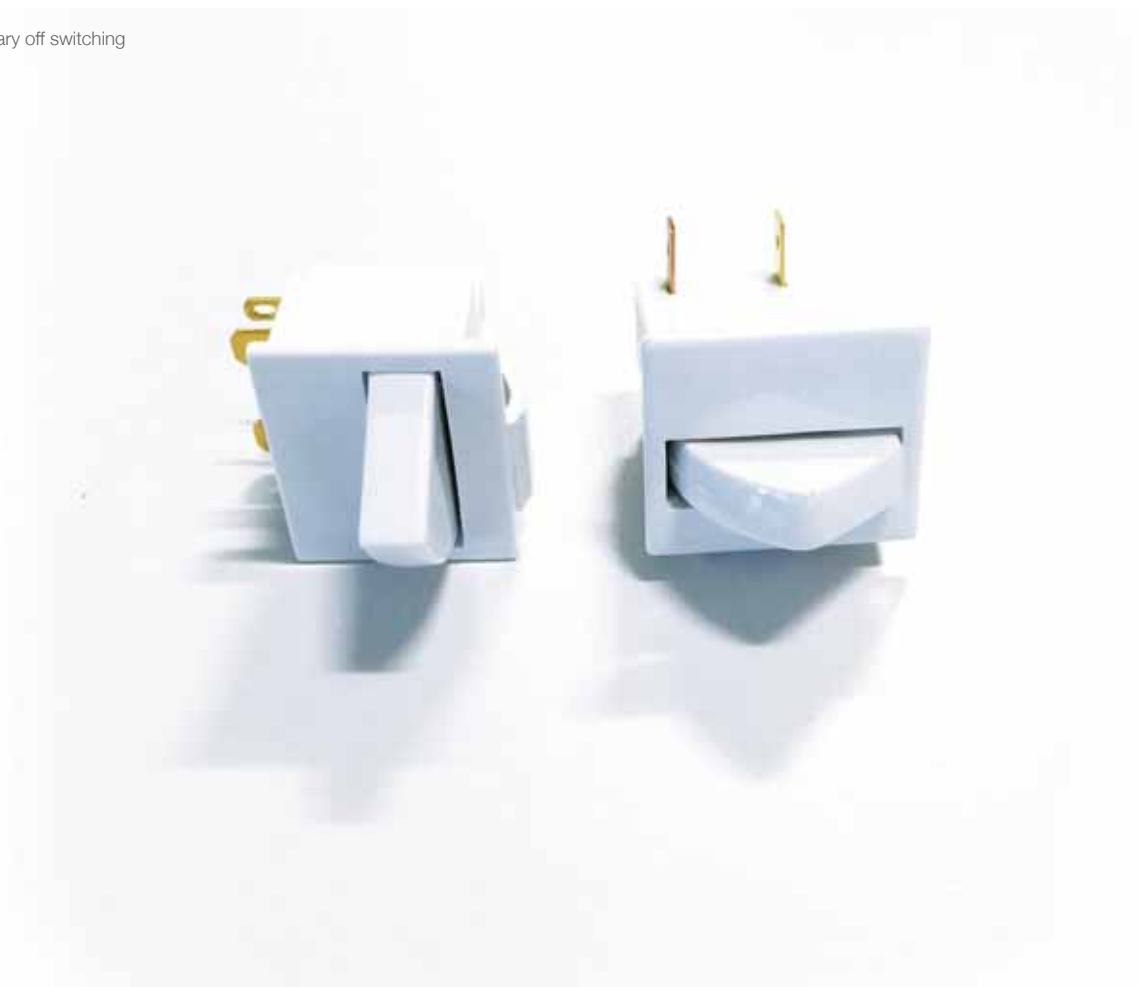
C1760R --



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





### 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

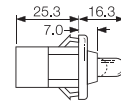
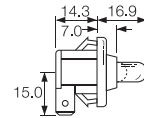
☑ 0055 & 0056  
0.2(0.2)A 250Vac 25T125 5E4  
(50,000 operations)

μ contact gap

### Dimensions and Properties

C0055RB

C0056RB



Terminal	Function	Actuator	Body	Options				
<p><b>C</b></p> <p>6.3x0.8</p>	<p><b>0055</b></p> <p>ON - OFF (momentary OFF) 90° terminals</p>	<p><b>R</b></p>	<p><b>B</b></p> <p>Panel cut - out</p> <p>Panel thickness</p> <table border="1"> <tr> <td>0055</td> <td>1.0 - 1.6</td> </tr> <tr> <td>0056</td> <td>1.0 - 2.6</td> </tr> </table> <p>Flange</p>	0055	1.0 - 1.6	0056	1.0 - 2.6	<p><b>Finish</b> Gloss finish only</p> <p><b>Colour</b> White or black Call sales for custom colours.</p>
0055	1.0 - 1.6							
0056	1.0 - 2.6							
<p><b>H</b></p> <p>4.8x0.8</p>	<p><b>0056</b></p> <p>ON - OFF (momentary OFF) straight terminals</p>							

# 3005 Refrigerator Door Switches

Splash Resistant



C3005BL - - -

C3005CB - - -

## Key Features

- Door switches
- Momentary on and momentary off switching
- Splash resistant
- Choice of terminal orientation
- Choice of actuators

## Approvals and specifications

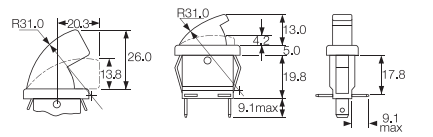
3005 25W 25T85 5E4 (50,000 Operations) 250Vac  
 3006 65W 25T85 5E4 (50,000 Operations) 250Vac

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

μ contact gap

## Dimensions and Properties

3005



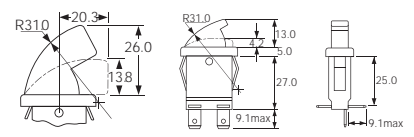
Panel thickness 1.0 - 2.5mm

B Actuator

C Actuator

R, L & B terminals

3006



Panel thickness 1.0 - 2.5mm

B Actuator

C Actuator

R, L & B terminals

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

# 3100 Refrigerator Door Switches

Splash resistant



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)

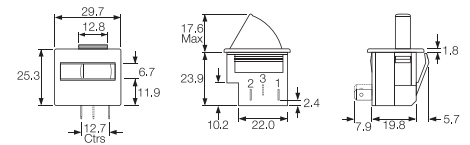
UL CSA 5A 250Vac  
UL 85°C, file E45221, CSA file LR10990

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		
<b>E</b>  4.8x0.5 QC 7.9	 <b>3101</b>  ON - OFF (momentary CLOSED)	<b>A</b>  17.6 max	<b>A</b> 	<b>W</b> White	Finish Gloss finish only  Colour White or black Call sales for custom colours. A full range is available for large orders.		
	<b>3102</b>  ON - OFF (momentary OFF)	<b>B</b>  15.6 max				<b>B</b> Black	
	<b>3111</b>  ON - ON (momentary 1 side)	<b>C</b>  23.0 max					<b>PW</b> Polar White
		<b>D</b>  17.1 max					

# 3140 Refrigerator Door Switches

Splash resistant



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)

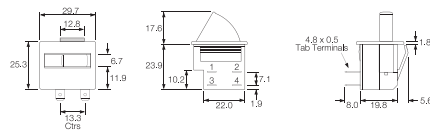
UL CSA 5A 250Vac  
UL 85°C, file E45221, CSA file LR10990

3141,  $\mu$  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
<p><b>H</b></p> <p>4.8x0.8</p>	<p><b>3141</b> ON - OFF (momentary)</p>	<p><b>A</b></p> <p>17.6 max</p>	<p><b>A</b></p> <p>Optional cut-out for orientation</p>	<p><b>W</b> White</p> <p><b>B</b> Black</p> <p><b>PW</b> Polar White</p>	<p><b>Finish</b> Gloss finish only</p> <p><b>Colour</b> White or black Call sales for custom colours. A full range is available for large orders.</p> <p><b>Order as:</b> 3151 (3141 type) 3155 (3145 type) 3156 (3146 type)</p>
<p><b>K</b></p> <p>2.6x0.8</p>	<p><b>3145</b> ON - OFF (momentary OFF)</p>	<p><b>B</b></p> <p>15.6 max</p>			
<p>Standard format is H terminals in positions 1 &amp; 2 and K terminals in positions 3 &amp; 4 For sealed terminals call sales</p>	<p><b>3146</b> ON - ON (momentary ON)</p>	<p><b>C</b></p> <p>23.0 max</p>			
		<p><b>D</b></p> <p>17.1 max</p>			



C0305RT ---  
C0305LT ---

## Key Features

- E12 and E14 lamps
- Switch rating up to 0.06A, 250V ac
- Auto switching
- Mercury free
- Available with right or left hand orientation
- Available as lampholder only

## Approvals and specifications

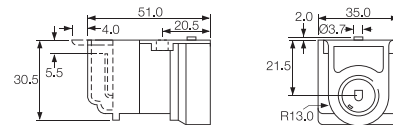
0.06A 250Vac 25 T 85 (0305 only)

UL 15W 125/250Vac (0305 only)  
UL 65°C, file E116391 (0305 only)

Switched units have  $\mu$  contact gap.

## Dimensions and Properties

The mechanism of this switch/lampholder does not contain mercury and may be safely used in food storage equipment. When fitted to the lid of a freezer storage cabinet, the switch will operate the lamp when the lid is opened to the angle of tilt shown in the drawing.



Terminal	Function	Mounting	Body	Options
<p><b>C</b></p> <p>6.3x0.8 9.1</p>	<p><b>0305 (E14)</b></p> <p>ON - OFF Switch and Lampholder</p>	<p><b>L</b></p> <p>(View from the bulb end)</p> <p>For Left hinged lid for 0305/0306 switches, not for 0307 lampholder</p> <p>TOP (LID) 25° min</p>	<p><b>T</b></p> <p>Body without flange for 0305/0306 switches</p>	<p><b>Colour</b> Call sales for colours. A full range is available for large orders.</p>
<p><b>H</b></p> <p>4.8x0.8 9.1</p>	<p><b>0306 (E12)</b></p> <p>Lampholder only (No Switch)</p>	<p><b>R</b></p> <p>(View from the bulb end)</p> <p>For Right hinged lid for 0307 lampholder or 0305/0306 switches</p> <p>TOP (LID) 25° min</p>	<p><b>S</b></p> <p>Body with rear flange for 0307 lampholder and for 0305/0306 switches</p>	



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



## Key Features

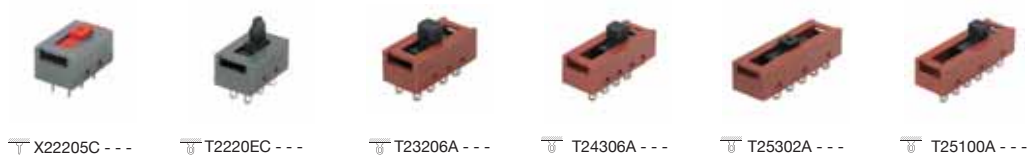
- Slide switches
- Ratings up to 16A, 250V ac
- PCB and solder terminals
- 2, 3, 4 and 5 position
- Choice of circuits
- Choice of actuators


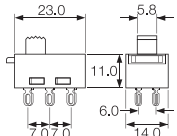
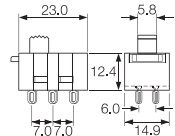
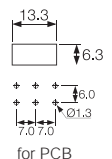

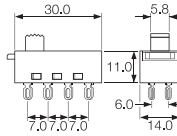
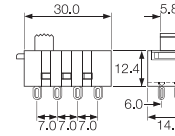
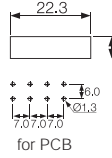
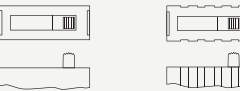
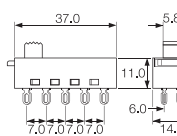
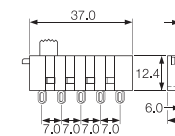
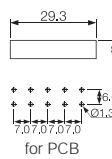

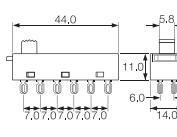
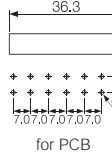
## Approvals and specifications

- ☑ 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
<p><b>K</b></p> <p>2.8 x 0.8</p> <p><b>R</b></p> <p>2.8 x 0.8</p> <p><b>T</b></p> <p>Solder</p> <p><b>X</b></p> <p>PCB 0.8 Sq.</p> <p><b>Y</b></p> <p>PCB 0.8 Sq.</p> <p>For mounting stability switches have extra "support" terminals</p> <p>* Nominal - Dimension varies with body type. For exact figure call sales</p>	<p><b>2</b></p> <p><b>3</b></p> <p><b>4</b></p> <p><b>5</b></p>	<p><b>2</b> Switching positions</p> <p><b>3</b> Switching positions</p> <p><b>4</b> Switching positions</p> <p><b>5</b> Switching positions</p>	<p><b>10</b></p> <p><b>20</b></p> <p><b>30</b></p> <p><b>40</b></p> <p><b>10</b></p> <p><b>20</b></p> <p><b>30</b></p> <p><b>40</b></p> <p><b>10</b></p> <p><b>20</b></p> <p><b>30</b></p> <p><b>40</b></p> <p><b>10</b></p> <p><b>20</b></p> <p><b>30</b></p> <p><b>40</b></p>	<p><b>0</b></p> <p><b>1</b></p> <p><b>2</b></p> <p><b>3</b></p> <p><b>4</b></p> <p><b>5</b></p> <p><b>6</b></p> <p><b>7</b></p> <p><b>9</b></p> <p><b>A</b></p> <p><b>B</b></p> <p><b>C</b></p> <p><b>D</b></p> <p><b>E</b></p> <p><b>G</b></p> <p><b>H</b></p> <p><b>J</b></p> <p><b>K</b></p> <p><b>L</b></p> <p><b>N</b></p> <p><b>P</b></p> <p><b>R</b></p> <p><b>S</b></p> <p><b>T</b></p>

## Examples



Body	Options	Dimensions		
<p><b>C</b> 2 positions    <b>H</b> 2 positions</p> 	<p><b>Colour</b> Call sales for custom colours. A full range is available for large orders.</p> <p><b>Legend printing</b> A wide range is available. For all options call sales</p>	<p><b>C</b> 2 positions</p> 	<p><b>H</b> 2 positions</p> 	<p><b>Cut-out / PCB Matrix</b></p>  <p>for PCB</p>
<p><b>A</b> 3 positions    <b>H</b> 3 positions</p> 		<p><b>A</b> 3 positions</p> 	<p><b>H</b> 3 positions</p> 	<p><b>Cut-out / PCB Matrix</b></p>  <p>for PCB</p>
<p><b>A</b> 4 positions    <b>H</b> 4 positions</p> 		<p><b>A</b> 4 positions</p> 	<p><b>H</b> 4 positions</p> 	<p><b>Cut-out / PCB Matrix</b></p>  <p>for PCB</p>
<p><b>A</b> 5 positions</p> 		<p><b>A</b> 5 positions</p> 		<p><b>Cut-out / PCB Matrix</b></p>  <p>for PCB</p>

# 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

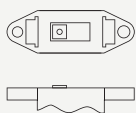
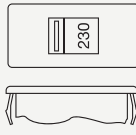
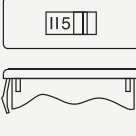
UL CSA 16A 250Vac Non Inductive  
UL CSA 4A 300Vac  
UL 65°C, file no. E45221, CSA file no. LR10990

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	
<p><b>K</b></p> <p>2.8 x 0.8</p>	2	2 Switching positions	10	<p><b>0</b></p> <p><b>6</b></p> <p><b>C</b></p> <p><b>L</b></p>	
<p><b>R</b></p> <p>2.8 x 0.8</p>			20		<p><b>2</b></p> <p><b>7</b></p> <p><b>D</b></p> <p><b>M</b></p>
<p><b>T</b></p> <p>Solder</p>			30		<p><b>3</b></p> <p><b>8</b></p> <p><b>E</b></p> <p><b>N</b></p>
<p><b>X</b></p> <p>PCB 0.8 Sq. For mounting stability switches have extra 'support' terminals * Nominal - Dimension varies with body type. For exact figure call sales.</p>			40		<p><b>4</b></p> <p><b>9</b></p> <p><b>H</b></p> <p><b>P</b></p>
	3	3 Switching positions	10	<p><b>5</b></p> <p><b>A</b></p> <p><b>K</b></p> <p><b>R</b></p>	
			20	<p><b>7</b></p> <p><b>8</b></p> <p><b>S</b></p> <p><b>T</b></p>	
			30	<p><b>7</b></p> <p><b>5</b></p>	
			40	<p><b>7</b></p> <p><b>8</b></p>	

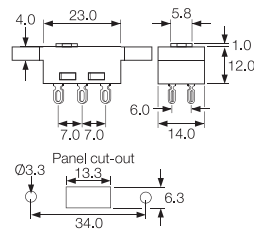
## Examples



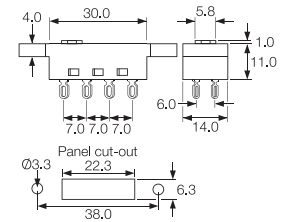
Body	Options
<p><b>B</b></p> <p>With mounting holes</p> 	<p><b>Colour</b></p> <p>Call sales for custom colours. A full range is available for large orders. Standard body colour is black.</p>
<p><b>E</b></p> <p>Snap fit</p> 	
<p><b>F</b></p> <p>Snap fit (single pole ON OFF only)</p> 	

## Dimensions

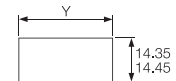
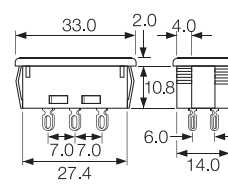
### 2 Pos B



### 3 Pos B

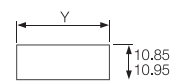
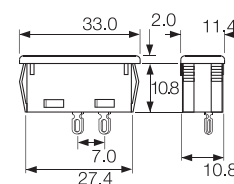


### 2 Pos E



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



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