

# Switches & Switching

## Different Types of Switches

Switches come in many different forms, recognised largely by their mechanical action, but all have one thing in common, to stop or break the flow of electricity.



Toggle switches

Push switches. These can be:  
'push to make' (switch ON)  
'push to break' (switch OFF).




Slide switch

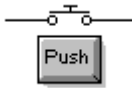
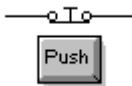
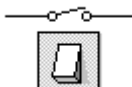
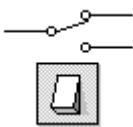
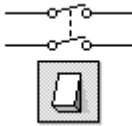
Rocker switch

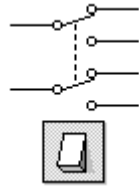


	<p>Rotary switch</p>
<p><b>Micro switch.</b>  <b>This is a small and sensitive switch.</b>  <b>The button is operated by a lever.</b></p>	
<p style="text-align: center;"><b>Specialised Switches</b></p>	
<p><b>Other switches are more specialised though still have the same function, i.e., to allow electricity to flow or not.</b></p>	
	<p><b>Reed switch.</b>  <b>This switch operates as a magnet passes close to the switching elements within the glass tube.</b></p>
<p><b>Tilt switch.</b>  <b>As the switch is tilted, the</b></p>	

<p><b>contacts within the switch, close.</b></p>	
	<p><b>Proximity switch.</b> <b>It is triggered when the magnet comes close to the switch.</b></p>

## Switching

<p>Symbol for <b>PUSH to MAKE</b></p>	
<p>Symbol for <b>PUSH to BREAK</b></p>	
<p>Toggle switches have a <b>POLE</b> at one, end about which the lever rotates, and a <b>THROW</b> at the other.</p>	
<p><b>SINGLE POLE SINGLE THROW</b> switch.</p>	 <p style="text-align: center;"><b>spst</b></p>
 <p style="text-align: center;">spdt</p>	<p><b>SINGLE POLE DOUBLE THROW</b> switch.</p>
<p><b>DOUBLE POLE SINGLE THROW</b> switch.</p>	 <p style="text-align: center;"><b>dpst</b></p>

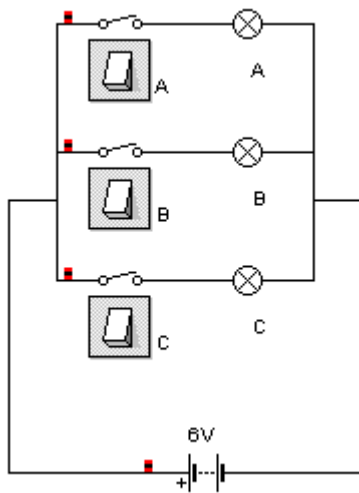
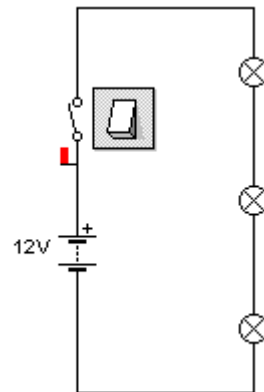


**dpdt**

**DOUBLE POLE DOUBLE  
THROW** switch.

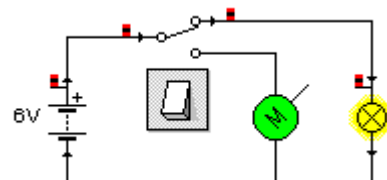
**Examples of circuits using switches:**

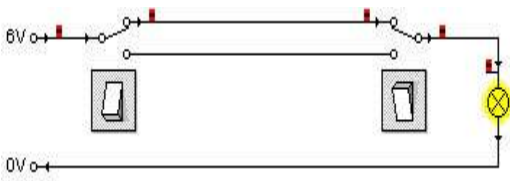
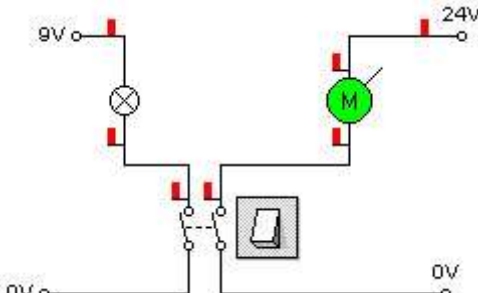
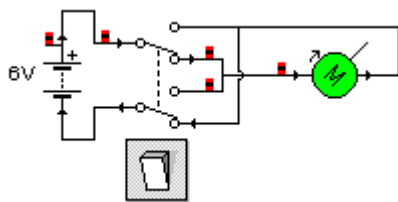
**SPST** - To switch ON three bulbs in series.  
(If one bulb 'blows' the other will stop working).



**SPST** - to switch on three light independently. These light are in parallel and is common in house lighting.  
(If one light 'blows' the others will stay ON).

**SPDT** - to switch ON either a bulb or a motor



	<p><b>SPDT</b> - a common usage is that of a hall light in a house, which switches ON the light either upstairs or downstairs.</p>
<p><b>SPST</b> - this switch can be used to switch two separate circuits On at the same time.</p>	
	<p><b>DPDT</b> - this switch can be used to change the polarity of a DC motor and hence reverse its direction.</p>
<p>For more on switching see:</p> <p><b>Electro-mechanical - RELAYS.</b></p> <p><b>Electronic - TRANSISTORS</b></p>	