

## Selecting the Correct Switches

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### 1) Passing Contact Switch (ON) - OFF - (ON)

The first thing that you need to know is that most Point Motors are not in fact motors they are solenoids. As a solenoid they only require a short pulse of electricity to energise. This is why the propriety manufactures call them 'Passing Contact Switches', as you change the position of the lever you pass a contact which energises the motor for a fraction of a second. The problem occurs when you want to change the points again, the switch has to pass the first contact again before it gets to the next contact to change the points. This causes the points to 'Chatter', or 'bounce'. The momentary toggle switch has become very popular for this reason, it does not pass an already made contact to get to the other contact. The down side is that it does not look like the real thing, it looks like what it is - a toggle switch.



Eckon EE4



Hornby R033

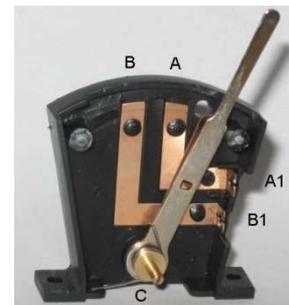


Peco PL-26



Brimal SW301

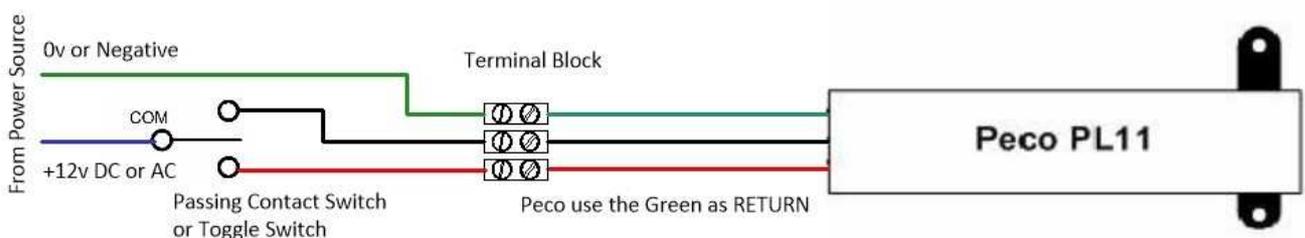
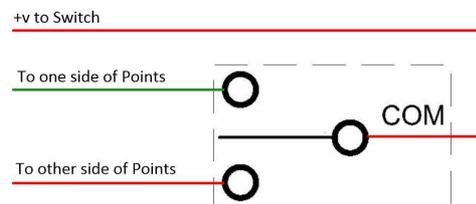
For this explanation let's say 'A' is the points straight through, & 'B' is the 'Turn out'. The position of the lever indicates that the switch has just put the points in the straight through position. This is good because lever tells you where the points are. Now to change the points the lever has to pass 'A' to get to 'B', thereby energising the motor again, which makes it 'chatter', before it reaches 'B' to energise the motor in the other direction.

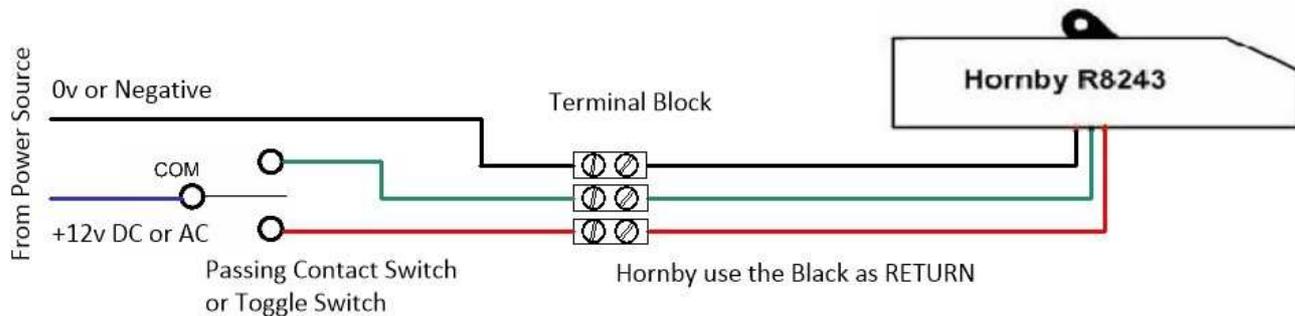


The basic circuit is shown here.

All switches have the same circuit, just different ways of achieving it.

On the points there will be 3 wires from it, one is the negative supply, the other 2 go to L1 & L2. Manufacturers use different colours for these wire so you will need to see the instruction sheet that comes with your Point Motor.





There are a number of other manufacturers of Point Motors, who may have other colour codes for their wires, please ensure you use the correct wires.

**Other Switches that can be used for Points.**



SW506 - SW509



SW555 - SW566



MR100 - MR104

The SW506 to SW509 switches are Momentary action in 4 different colours with 19mm square Button  
 The SW555 to SW566 switches are Momentary action in 6 different colours with 6mm round button.  
 MR100 to MR 104 are flush mounting studs with a contact probe. The studs are mounted on the control panel or base board or mimic panel and the probe is connected to the positive supply. You require 2 of each of the above for each set of points.

The circuit is as above, but one switch / stud on the green wire and one on the red wire. (in the case of Hornby)

**2) ON – ON Switch.**

These switches are used to divert power from one circuit to another. 2 aspect coloured light signals to switch from Red to Green and back again. It can also switch power from one section of track to another section of track. Designed to divert power from one circuit to another. It is also the switch used to operate certain turntables.



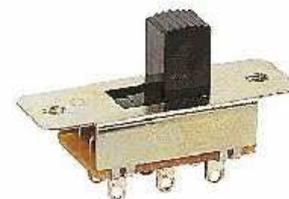
Hornby R046



Peco PL-23



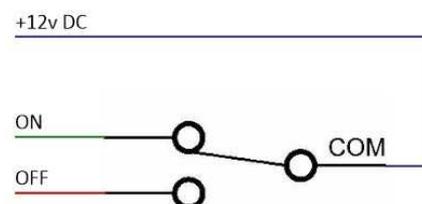
Brimal SW308 / SW318



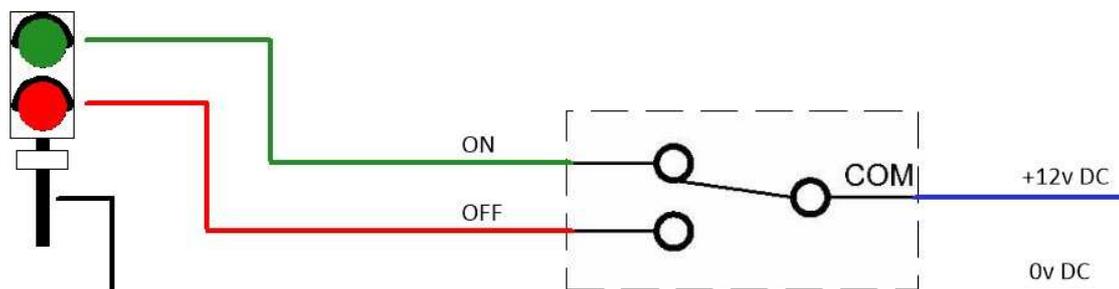
SW150

The basic circuit is shown here.

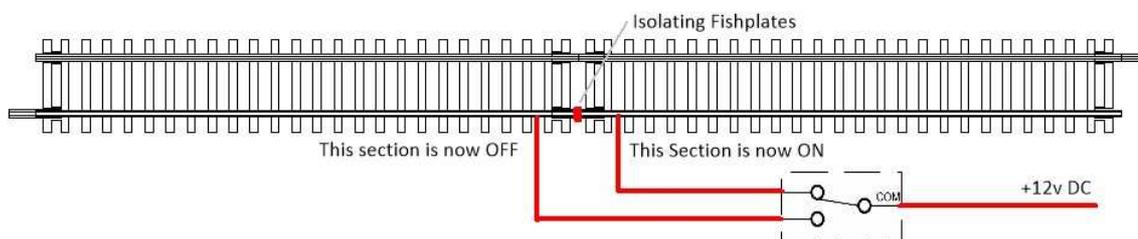
All switches have the same circuit, just different ways of achieving it.



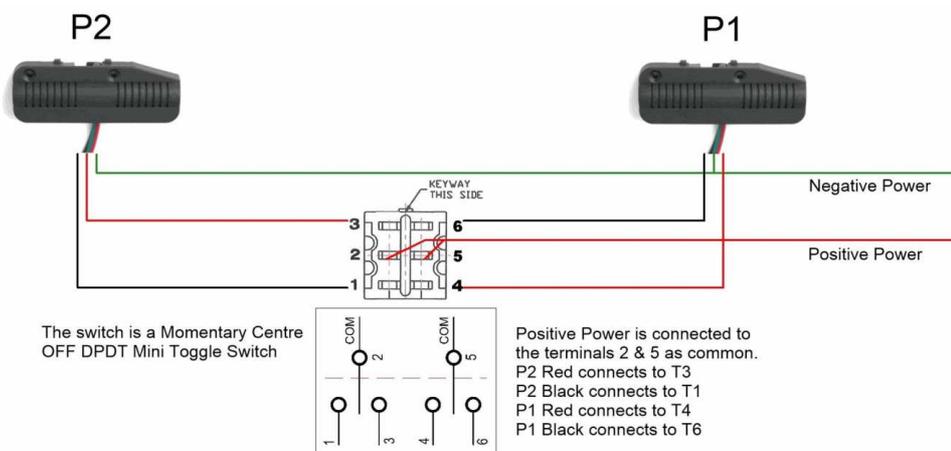
This drawing shows how an ON – ON switch is controlling a 2 aspect signal, as shown the Green light is ON, changing the switch, will change the Green to Red.



This drawing shows how an ON – ON switch is used to control sections of track. The tracks are connected with plastic 'Fishplates' which isolate the left track from the right. The switch at the moment shows that the right track is powered and the left track is isolated. By changing the switch the live track can be reversed.



This drawing shows the switch being used to control the points for a dual Reverse Loop layout. A complete data sheet is available on [Reverse Loops](#).



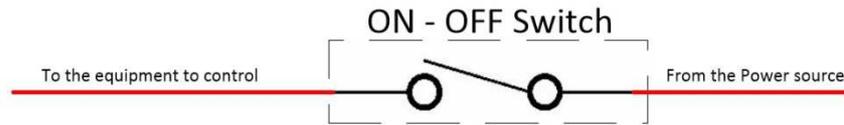
### 3) ON – OFF Switch.

Use this switch for controlling isolated sections of track or to control street lights, building lighting, and many accessories that just require a simple On – Off switch.



The basic circuit is shown here.

All switches have the same circuit, just different ways of achieving it.



#### 4) ON - ON - ON Switch.

This switch has a number of functions. It can be used to control 3 Aspect signals, as you have 3 positions each position controls one of the 3 signal lights. It can also be used for controlling power to sidings in a fiddle yard.



Eckon EE3



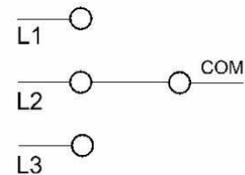
SW320



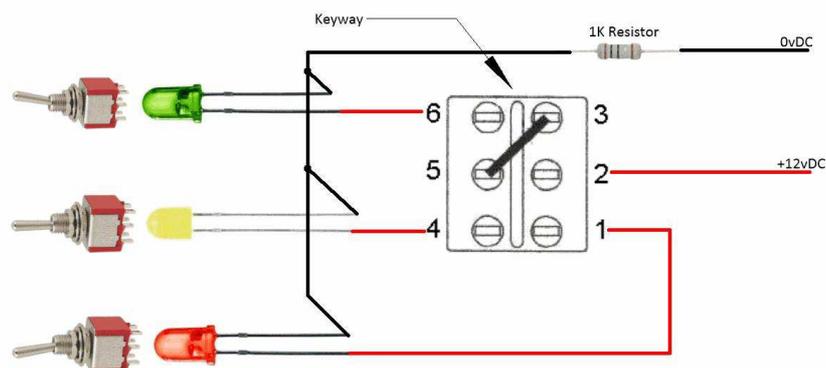
SW313

The basic circuit is shown here.

All switches have the same circuit, just different ways of achieving it.



This drawing shows how the switch is used to control a 3 aspect signal. A full data sheet is available [3 Aspect Signal Control](#)

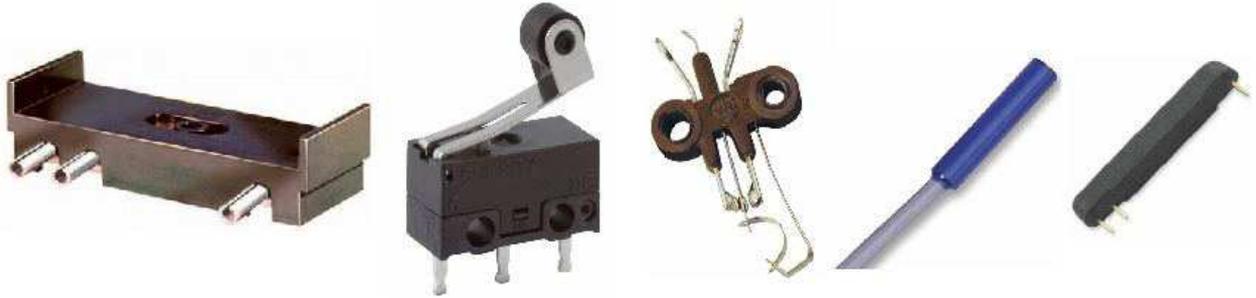
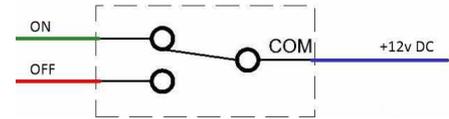


#### 5) OTHER SWITCHES.

These switches are all classed as 'Changeover' switches, i.e. they go from one state to another when activated. The switches have many uses from Points Indicators, train position, sidings occupied, switching timers or lights on when the train passes them. Level crossing control, and many more.

The basic circuit is shown here.

All switches have the same circuit, just different ways of achieving it.



Peco PL- 13

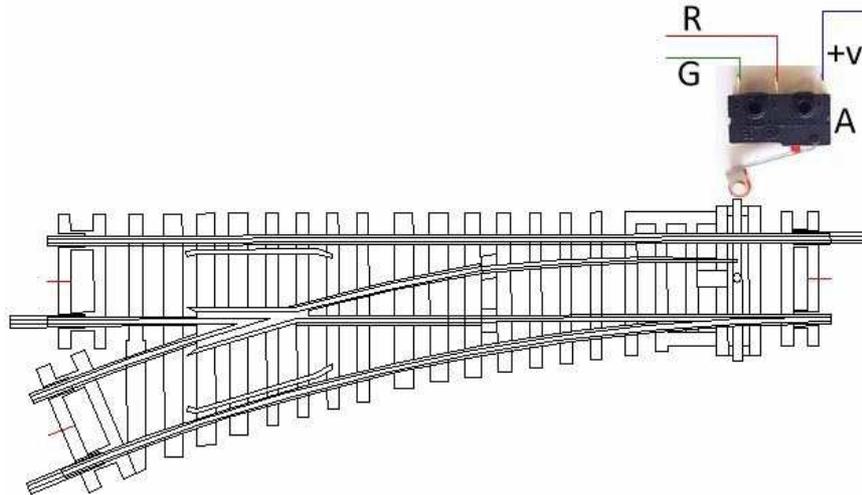
SW054

SWP100

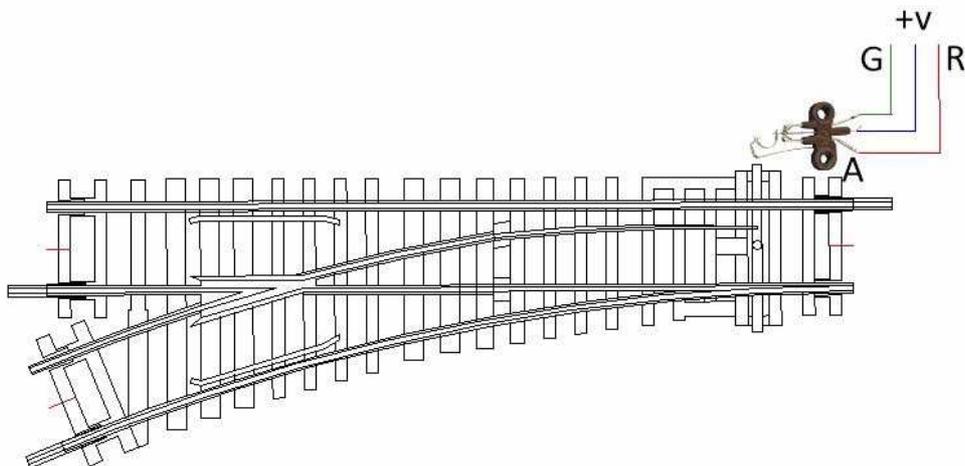
SW919

SW929

This drawing shows how the SW054 is wired to indicate the position of a set of Points. For further details [Click Here](#). In each case G is for green LED or bulb, and R is for Red LED or bulb. Remember with LED's to use a dropping resistor, for more information on dropping resistors [Click Here](#).



This drawing shows how the SWP100 is wired to indicate the position of a set of Points. For further details [Click Here](#). In each case G is for green LED or bulb, and R is for Red LED or bulb. Remember with LED's to use a dropping resistor, for more information on dropping resistors [Click Here](#).



For further applications see all the other data sheets. [MENU](#)