

MR203 Kit

Points Position Indicator Kit

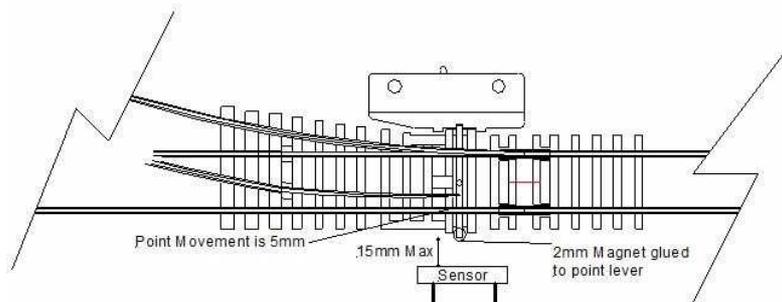
The Kit consists of:-

- 1 Red LED (SL101)
- 1 Green LED (SL100)
- 2 Panel mounting Bezels (SL300)
- 2 Resistors (1K) (RE137)
- 1 Magnet (SW932)
- 1 Reed Switch (SW928)

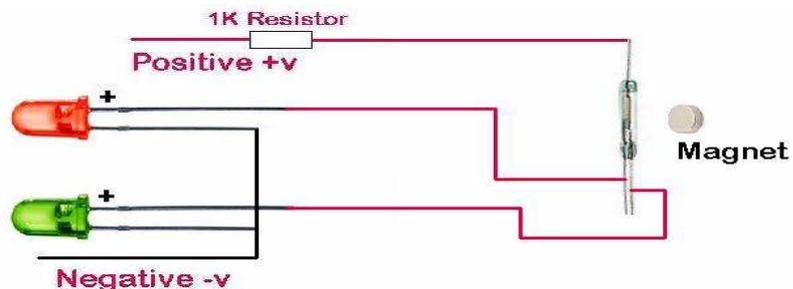


The Bezel requires a 6.35mm hole in the control panel, and the LED is pushed into the bezel from the underside thereby locking the LED and Bezel in place on the panel.

This Kit is designed to Indicate the state of a set of Points. The position of the Sensor and the magnet is shown in the drawing below. Set it up with the points set at straight through and the sensor about 10 to 15mm from the lever. Glue the magnet to the moving lever of the points. When the points are changed the magnet should move to within 10 to 5mm of the Reed, this will then change the state of the switch.



Connect the Green LED to the longer of the 2 wires as shown in the drawing below. This indicates the points are straight through. Connect the Red LED to the shorter of the 2 wires as shown. Connect a Positive voltage to the other end of the Reed via a 1K resistor as shown. Connect the negative feed to the shorter leads on the LED's as shown. When the magnet is brought close to the Reed the light should change.



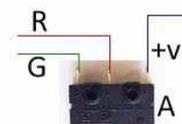
SOME ALTERNATIVE WAYS TO INDICATE POINT STATUS

Microswitch
(SW052 to SW054)

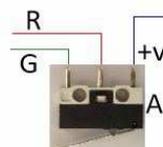
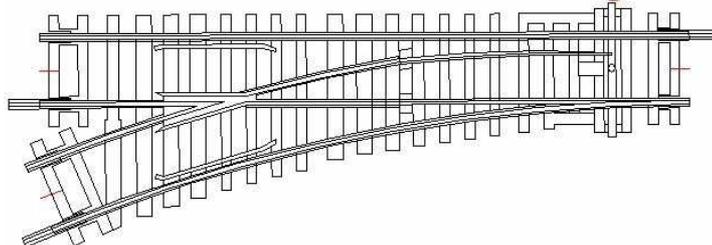
This switch is a Microswitch in the state shown the Green LED is ON. When the switch is activated (pressed down) the Green LED switches OFF and the Red LED switches ON. This situation will remain until the lever is allowed to go back to the resting position.

Check the points are straight through. Fit the Roller switch as shown and screw down with a 2mm self tapping 16mm long screw in position 'A' only. Now wire the LED's as shown above with the green Wire going to the Green LED and the red wire going to the Red LED. Connect the power and check that the Green LED on ON, now move the points to turn out position, and the Green should go out and the Red come on. Make small adjustments of the switch by rotating the switch around the screw 'A', when you are happy that all is working well fit the other screw to lock the switch in position.

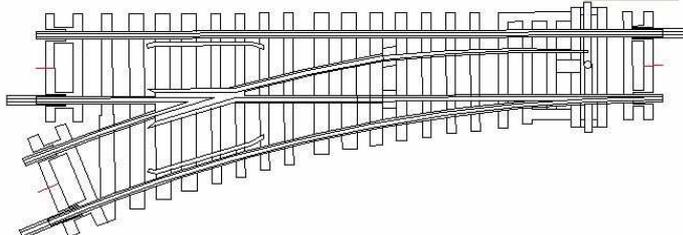
In each case the wire from the switch is connected to the Anode of the LED (See below) and the Cathode is connected to the Negative voltage via a 1k dropping resistor.



This drawing shows the Switch SW054

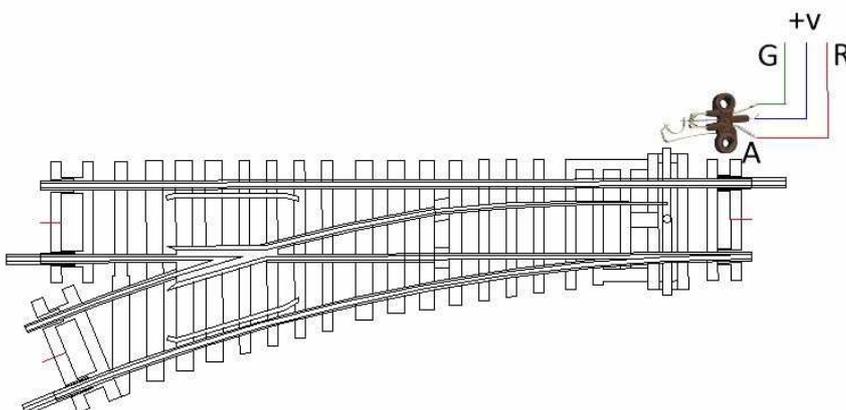


This drawing shows the Switch SW052



Leaf Switch

This Drawing show the Switch SWP100 Equivalent to the Peco PL-32



This switch is a Leaf Switch in the state shown the Green LED is ON. When the switch is activated (pressed down) the Green LED switches OFF and the Red LED switches ON. This situation will remain until the lever is allowed to go back to the resting position.

Check the points are straight through. Fit the Leaf switch as shown and screw down with a 2mm self tapping 16mm long screw in position 'A' only. Now wire the LED's as shown above with the green Wire going to the Green LED and the red wire going to the Red LED. Connect the power and check that the Green LED on ON, now move the points to turn out position, and the Green should go out and the Red come on. Make small adjustments of the switch by rotating the



switch around the screw 'A', when you are happy that all is working well fit the other screw to lock the switch in position.

In each case the wire from the switch is connected to the Anode of the LED (See below) and the Cathode is connected to the Negative voltage via a 1k dropping resistor.

All the above switches can be fitted under the base board.

First fit an M2 by 30mm screw into the hole in the moving lever in the centre of the points. You will need an oval hole in the baseboard so the screw moves with the lever. Now fit the switch against the screw as above, so the screw pushes against the moving part of the switch to change the state of the switch.

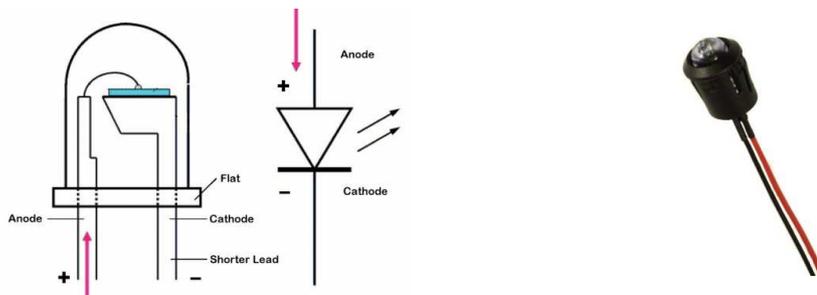
This is a little harder to achieve as everything is upside down, but looks a lot neater when finished.

SOME BASICS ABOUT LED CONNECTION

The LED is a Light Emitting Diode so only allows voltage to flow in one direction. That is from the Anode to the Cathode. The Cathode is shown as the shorter lead and the base of the LED has a 'flat' on the Cathode side. Most LED's have a maximum working voltage of 2 to 3 volts DC.

Most circuits work on 9v, 12v, or 24volts so a dropping resistor will be required to drop the voltage to 2 to 3 volts. In most cases a 1K resistor will do the job.

See the drawing below:



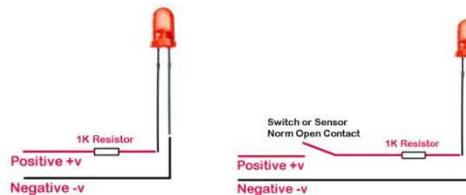
Connection of an LED.

There are many ways to connect one or more LED's to a circuit depending on the function you want it to Indicate when illuminated.

Basic Connection:

Here are 2 drawings showing one direct to power source the other via a switch or sensor contact.

The dropping resistor could be put on either the Positive or Negative lead.



(All circuits are working at voltages between 9v to 24v- (Above this voltage you will have to change the value of the resistor)
(Black lines / wires are Negative, Red Lines / wires are Positive Voltage)