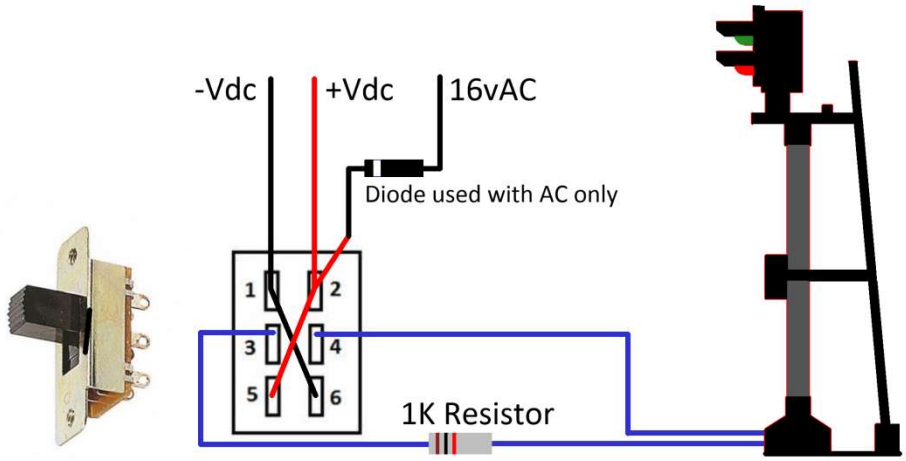
# Wiring a two wire LED Signal

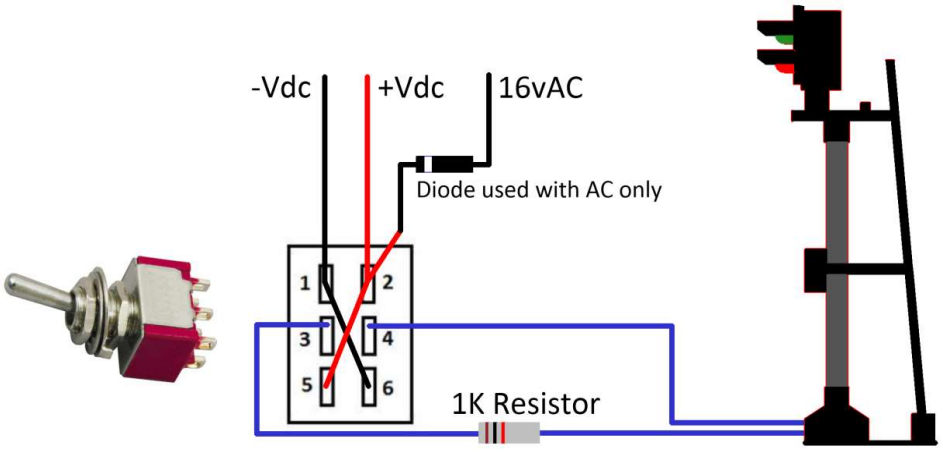
Some LED signals have only 2 wires to power both the RED & GREEN LED's. An LED is polarity sensitive so if the polarity is reversed the LED will not work, so if two LED's are joined together but with opposing polarities only one will be ON at any time.
There are a number of ways of switching these signals, the following are a few ideas to help.

**SLIDE SWITCH**




12VDC
First connect the Negative supply to pins 1 and 6 of your slide switch, then connect the Positive supply to 2 and 5. Now connect the two wires from the Signal to pins 3 & 4 of the slide switch. One wire must go through the Resistor as shown above.
16VAC
First connect the Negative supply to pins 1 and 6 of your slide switch, then connect the Positive supply through a Diode as shown to pins 2 and 5. Now connect the two wires from the Signal to pins 3 & 4 of the slide switch. One wire must go through the Resistor as shown above.

**TOGGLE SWITCH**

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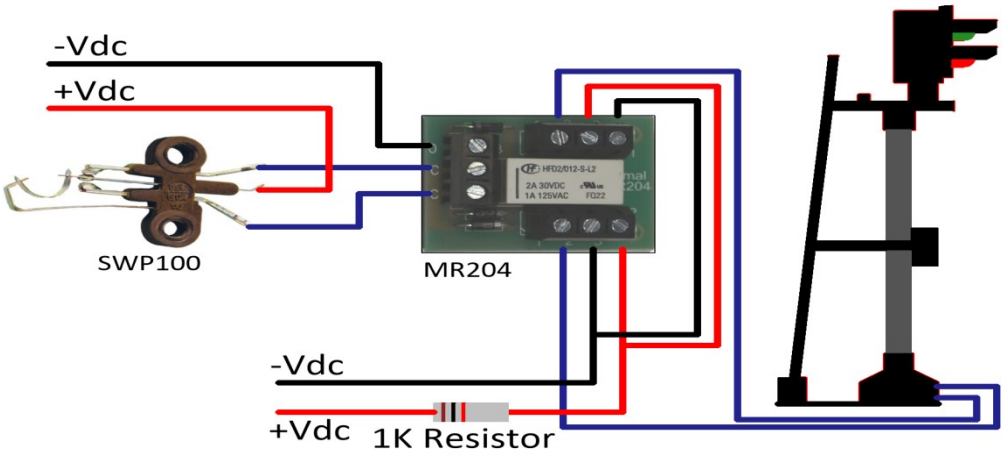
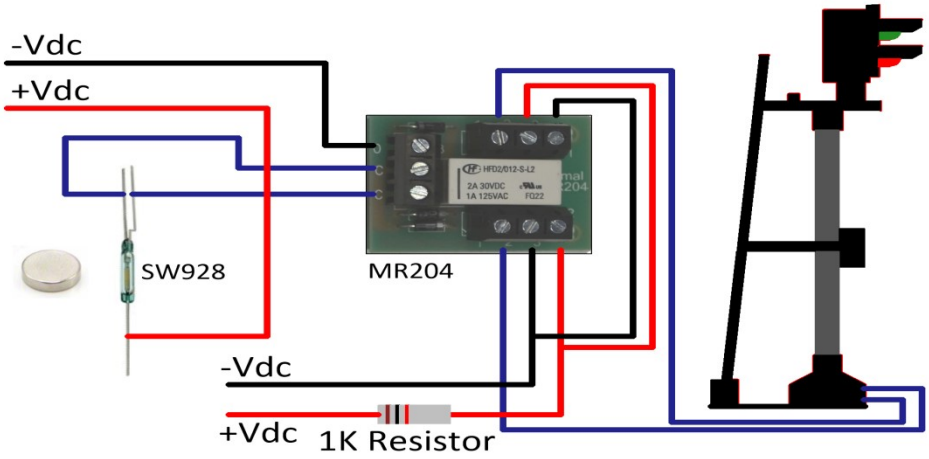
Brimal Consultants Ltd trading as BRIMAL COMPONENTS.
60 Lawson Road, Seaton Carew, Cleveland, TS25 1AL
Telephone: 01429 297 277. Email Andrew@brimal.co.uk

**MR204 & Leaf Switch**




In this circuit we are using a Peco type Leaf Switch SWP100, this is a single pole changeover switch so cannot switch the Negative side. For this we use the MR204 Relay board. The leaf switch is activated by the Point Motor, this in turn activates the relay which can reverse the polarity for the LED Signal. Do not forget the Resistor installed as shown above. The Input to the Leaf Switch can be either 12vDC or 16vAC as the MR204 has built in diodes to rectify the AC. When connected as above the ON LED may not be correct for the position of the points, to correct it reverse the 2 wires going to C1 & C2 on the MR204.

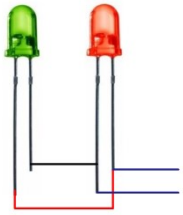
**Reed Switch SW928**




Here we are using a glass Reed Proximity Changeover switch SW928. In this case the Reed switch is activated b a magnet on the moving part of the Points. The Reed switch will be activated when the magnet is near the switch changing the state of the switch, therefore changing the Signal. When the magnet is moved away from the Reed switch the state of the switch will change again, this in turn switches the signal again. When connected as above the ON LED may not be correct for the position of the points, to correct it reverse the 2 wires going to C1 & C2 on the MR204.

In all the above cases a repeater indication can be sent to the Control Panel. This can either be 2 LED's as the signal, one bicolour LED, or on LED just to indicate when the Points are turned out. each of the above will require a 2 core cable run back to the Control panel.
In the case of the Slide switch or Toggle switch the 2 core cable is wired into terminals 3 & 4. In the case of the MR204 the 2 core is wired into the same terminals as the signal.
Connection at the Control panel is as follows.

**Repeater Panel 2 LED's**



The Led's presumably Red & Green as the signal need to be wired as follows.
An LED has two pins, one short and one long. The short pin is normally the Negative or 0v the long pin is the Positive or +v. To connect them correctly first connect the short pin on the Green to the long pin on the Red. Next connect the long pin on the Green to the short pin on the Red. Now connect the 2 core cable from the signal to the short and long pins of the Red as shown. I would suggest you use a 2 way terminal block to do this as soldering is going to be difficult.

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