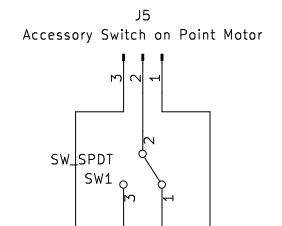


Bidirectional or simple back to back LED's
(lineside or panel mount) for use as signals.
(Works with homemade or commercial units eg by DCC Concepts)



How it Works:
A DCC signal is fundamentally an AC waveform of sufficient strength (voltage and current) to drive an LED.
A 1N914 (or 1N4148 or equivalent) diode is used to ensure current only flows in one direction for a given point motor switch setting.
A 6.8K current limiting resistor is used (adequate for most LED's – see Note 3)

Two back to back LED's are used across the 2 output pins and will give one colour signal depending on auxiliary contact input.
An optional solid state switch can be used for external loads. (If not used a jumper is needed across pins 1+2)

- Notes:
- 1) This circuit only works on DCC as it relies on the AC nature of the DCC signal.
 - 2) The circuit does not need to be switched by point motor contacts – any SPDT switch arrangement will do.
 - 3) Current Limiting R values can altered to suit the current (brightness) for each LED (Newer LED's work well on 2–3 ma)
 - 4) Solid State relay can be either TLP241A or TLP3554