



How it works....

Two Monostables are used. Monostables 'IC1a' is configured to work on the negative going edge and the other on the positive going edge. Set by feeding the right output to the right input.

When input pin six (CN1-6) goes low or is 'grounded' this discharges a cap (C4) which also has the function of removing the many voltage spikes that could cause false triggering. Over time C4 discharges to trigger IC1a. An output pulse 'Q' goes high for a time (500mS) as determined by R2/C1. In turn switching Q1 on for a time, and activating the signal. Diode 'D2' removes the negative side of the AC power signal which the transistor does not take kindly to.

IC1b does the same as IC1a but generates an output pulse once the cap (C4) gets charged (about 70% up). Due to C4 (and high resistance feeding the C4) once the train has left the block the signal should change about a 1sec later. Having this delay stops intermittent triggering if contact between rails is lost for whatever reason. R3/C2 sets the output pulse width for the IC1b.

IC2 is a standard +5V reg, bit of an overkill, but works and works well and can support a short circuit for a little while (i.e. secs not minutes) as well. D1 removes the negative side of the AC signal and C3 converts the half sine wave to a rude D.C.

D4 is used as a voltage protection device to protect the input (also helps with stopping false triggering). This also allows higher voltages to be present on the input.

Title		
Marklin Block Signal Controller		
Size	Number	Revision
B		V1.0
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