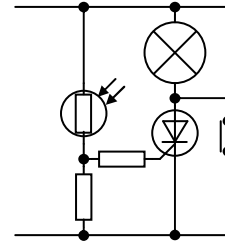


Latches

Normally the output from a sensor processing block is a momentary high or low. For a burglar alarm for example we don't want the alarm only to sound when the detector is actually tripped; we want the alarm to stay on – at least for a reasonable time.

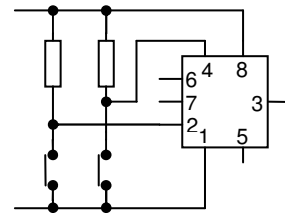
Thyristor

A thyristor is a switchable diode which once turned on will stay on until reset. It is turned on by a small current into the gate. It is turned off either by short-circuiting the device (a push-to-make switch from anode to cathode) or by putting push-to-break switch in the load current path (say from thyristor to ground).



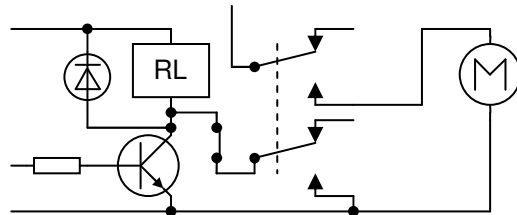
555 Bistable

This uses the 555 timer chip with a set and a reset switch. The circuit can also be set by an LDR or thermistor, any potential divider arrangement, or by the output from a logic gate.



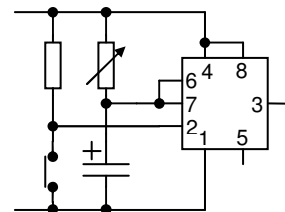
Relay

Using a dpdt relay one set of contacts can be used to latch the relay. A push-to-make switch is used to reset the relay. If required, the relay can use a separate power supply for the load.



555 Monostable

This uses the 555 timer chip and an RC combination to provide a circuit that when triggered will stay on for a fixed length of time. $\text{Time on} = 1.1 \times R \times C$. If you make the resistor a variable as shown here, then the time on is also variable.



Touch bistable

A touch bistable can be built with just a FET and a capacitor. Because the current into the FET is practically zero, once the capacitor is charged the FET will stay on forever. Touching the top pad will charge the capacitor, touching the bottom pad will discharge it.

