

Re: Latching Relay

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- *From:* "ian field" <dai.ode@xxxxxxxxxxxxx>
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"Fred Bloggs" <nospam@xxxxxxxxxxx> wrote in message
news:44942920.4050905@xxxxxxxxxxxxxx

I am putting together a project which is designed around low power DC (battery driven), and that ultimately results in a high (+5v) or low (0v/ground) – a simple change of state to pin out of IC. I have good control over this output, and can provide assertion high or low, or indeed momentary.

I intend to then couple this output through a darlington transistor pair to provide the necessary current for a relay to then switch mains power and operate a mains powered device (eg. a light bulb).

The problem I have is:

As the project is battery driven, I MUST be as frugal as possible with current drain. I cannot afford any power drain from the battery when the relay is in operation and the mains powered device is on.

What I have considered:

Latching relay – I think these work by providing a brief trigger to energise the coil, the n/o contact is somehow strapped to the load side, which then latches the relay on after trigger. Reset would require a break in the coil leg to ground/0v. Have I understood this correctly? Will there be no further drain from battery after initial trigger?

This initially appear the answer, but as my output is from 1 IC pin only (high, low or blip), I am left wondering how to design my cct to trigger and re-set the relay?

Magnetic latching relay – this looks like a strong possibility. I could set my output to momentary, then each time pin assertion, the relay is triggered and toggled on or off. I believe because these relay on magnets, that they do not use or require current to maintain state?

I don't understand the above working designs / options of these relays

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enough to be confident within my design, could someone help me with my understanding and perhaps make comment to my original project requirement (ie. battery control, switch on/off of mains power, no battery draw when coil/switch is energised).

A typical datasheet is here:

<http://rocky.digikey.com/WebLib/Omron%20Web%20Data/G6J-Y%20Series.pdf>

<http://rocky.digikey.com/WebLib/> Backspacing the link reveals a few Gb of datasheets.