Re: HELP to make LEDs work with AC current

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- *From*: mrdarrett@xxxxxxxxx

- *Date*: Wed, 8 Oct 2008 14:10:03 −0700 (PDT)

On Oct 8, 1:47 pm, Mark Main <em...@xxxxxxxxxxx> wrote:

> I have a transformer that is reducing the AC supply voltage down to
> 25.5VAC, which connects to a thermostat that connects to a Honeywell
> water valve for my home boiler system, which then completes the
> circuit back to the transformer. I don't see an amperage limit marked
> on the transformer−−it's about baseball size, so it's not small.
>
> Only 1 of the poles of the relay is used and I would like to use the
> other poles of the relay switch to power a red LED (either a standard
> LED or a Bi−Polar LED).
>
> This is my home, safety is top of the list (e.g. in my research I've
> seen some people offer designs that don't use resistors with the LEDs
> or they connect diodes straight across the power supply, both of which
> don't seem like they maximize safety).
>
> I want the design to still be safe when one of the parts does
> eventually fail.
>
> I need help with the design, and I'd especially like to know the
> formulas that were used in the design because I eventually want to
> create some LED lighting under my kitchen counter that uses 110V AC...
> So if you can help me calculate how I alter the design for 110V vs.
> this current 25.5V design that would be great.
>
> I'd like to know how to do this using standard LEDs and also how to
> also do it using the bi−polar LEDs.
>
> Thanks for any help... I'm new and learning and have only done a few
> basic projects so far.
>
> From Google:

http://www.marcspages.co.uk/tech/6103.htm

http://www.turbokeu.com/myprojects/acled.htm

The usual disclaimers apply; use at your own risk; I am NOT an electrical engineer qualified to make assessments re: electrical safety.

Folks, any comments on the safety of those circuits? Electronic current−limiting countermeasures recommended?

Michael
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