

Re: Triac Circuit Not working right ?

Source: <http://sci.tech-archive.net/Archive/sci.electronics.basics/2004-11/1290.html>

From: Stacy (stacy_at_123.com)

Date: 11/24/04

Date: Wed, 24 Nov 2004 16:41:41 -0600

"Robert Monsen" <rurname@comcast.net> wrote in message
news:8d6pd.455963\$D%.181033@attbi_s51...

> Stacy wrote:

> > "John Fields" <jfields@austininstruments.com> wrote in message

> > news:1nb9q0pcsajomc41481ubirig7k6qjhs1s@4ax.com...

> >

> > > On Wed, 24 Nov 2004 09:16:05 -0600, "Stacy" <stacy@123.com> wrote:

> > >

> > >

> > > > I have built a circuit based on. It uses a Triac and a Optoisolator

3031

> >

> > to

> >

> > > > turn power on.

> > > > <http://www.uoguelph.ca/~antoon/gadgets/relays/relays.html> Solid State

> >

> > Relay

> >

> > > > by Tony Van Roon

> > > >

> > > > I hope that someone can answer a few questions (If you could be simple

> >

> > on

> >

> > > > your explanation as anything involved with get me lost)

> > > >

> > > > 1. The circuit I thought is suppose to be a Latching circuit. That is,

> >

> > from

> >

> > > > my understanding, you apply the 5vDC for a second and the 120 light
will

> > > > turn on. When you remove the 5v DC the 120 Volt light stays on. This
does

> > > > not work for me. The 120 Volt light stays on only when I keep the 5 v
DC

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> >>> *applied. When I remove it the light goes out.*
> >>
> >>----
> >> *That's the way it's supposed to work. When you remove the 5V you are*
> >> *no longer supplying current to the LED in the opto, which disconnects*
> >> *the TRIAC's gate from its trigger source, the mains.*
> >>----
> >>
> >>
> >>> *2. The circuit does not work when I have the .01uf capacitor connected*
> >
> > *as*
> >
> >>> *shown in the schematic. That is, the light simply comes on and stays*
on.
> >>> *This is regardless of the 5 v DC.*
> >>
> >>----
> >> *Make sure you have the capacitor connected to the junction of R3 and*
> >> *R4 _only_, and that the gate of the TRIAC is _only_ connected to R5*
> >> *and IC1-4. The "hump" in the wire connecting C1 to R3 and R4 means*
> >> *that it jumps the wire it's crossing, not that it's connected to it.*
> >>----
> >>
> >>
> >>> *Can anyone help me to understand. Or perhaps if the circuit is wired up*
> >
> > *as*
> >
> >>> *described its suppose to exhibit these symptoms ?*
> >>>
> >>> *It frustrates me as Im trying to learn that I think I have done all the*
> >>> *right things, but then it doesnt work.*
> >>
> >>----
> >> *Not to worry; we (me, anyway) all learn by trial and error. :-)*
> >>
> >>--
> >> *John Fields*
> >
> >
> > *Thanks John, I'm glad it works sorta the way it is suppose to. I think I*
> > *have read about 5 or 10 of similar circuits and some of them they call*
them
> > *latching. I must have had that confused.*
> >
> > *Yes the "hump" is NOT connected. -thanks.*
> >
> > *When you say*
> >
> >> *Make sure you have the capacitor connected to the junction of R3 and*

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> >> *R4 _only_, and that the gate of the TRIAC is _only_ connected to R5*
> >> *and IC1-4.*
> >
> >
> > *I do have the Cap between R3 and R4. From there the cap is connected to*
a
> > *common line that has the R5 / MT1 and load connected up to it. (bread*
> > *board).*
> >
> >
> > *4-----Gate*
> > *|*
> > *.01u R5 MT1*
> > *|_____|_____|_____(Load)___*
> >
> >
> >
> *Look at the datasheet for the MOC3010. There is a sample circuit which*
> *could be better for powering a lamp.*
>
> <<http://www.fairchildsemi.com/ds/MO/MOC3010-M.pdf>>
>
> *See Figure 6.*
>
> --
> *Regards,*
> *Robert Monsen*
>
> *"Your Highness, I have no need of this hypothesis."*
> *- Pierre Laplace (1749-1827), to Napoleon,*
> *on why his works on celestial mechanics make no mention of God.*

Thanks for that. I did actually do some other circuits like the one you indicated. Although I used a 3031 (as I recall) The reading I did seemed to indicate that the 3031 does the Zero thing which minimized RF if there are TV's/ Radio etc around. At least that seem to be what I understood. I kinda wish that people would actually tell us the parts they used and then give us the theory as to how to arrive at the right part. This would help me anyway. If I can see exactly what they used. This way I can figure out their math and test mine and hopefully come to the same conclusions. When I finish a little project I write the my observations, and what chips I used that worked so Next time I dont have to expriment all over again.

Regards