

Re: Resistor vs transformer

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- *From:* John Fields <jfields@xxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Wed, 08 Feb 2006 06:09:44 -0600
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On Wed, 08 Feb 2006 09:26:30 +0100, Weinberger Hans
<weinberger@xxxxxxx> wrote:

On 7 Feb 2006 13:45:00 -0800, bill.sloman@xxxxxxx wrote:

Weinberger Hans wrote:

On 7 Feb 2006 06:49:00 -0800, cs_posting@xxxxxxxxxxx
wrote:

Weinberger Hans wrote:

Thanks and all those who
gave "useful" replies.
Its a wireless receiver unit
which calls the fire
department in case
of a fire.

You probably need to figure out how it
converts 120v to whatever it
needs. It may be that you could rip out its
power supply and
substitute one for your line voltage.

Is that time/cost efficient?

No. Get a transformer with a dual 115V+115V primary, connect the
primaries in series, and hook your fire alarm across one of the
primaries. Ignore the secondary windings.

Re: Resistor vs transformer

Cost goes by size, but 6VA transformers have rotten regulation. The 2002 Farnell catalogue lists a 12VA part (stock number 159-591) which cost 6.58 euro and would presumably do the job, You'd have to put the transformer in a box to protect the outside world.

Farnell have a whole range of boxes – I'd probably go for the 525-625 (which cost another 5.65 euro back in 2002), and mount the transformer on the lid. You might be able to get cute and mount the fire-detector on the other side of the same lid (leaving it outside the box).

This ought to work – the transformer will run a bit warm, but it would run warm without any load at all.

I easily/cheaply find dual 230V at the primaries in my area. I guess it would do the job too.

Not necessarily.

Sloman's trick of using the 120V primaries in series and having your device connected in parallel across the primaries causes the transformer to become an autotransformer, which would work.

Using the scheme with a transformer with dual 240V secondaries likely wouldn't work well because of the much higher winding resistance you'll encounter causing, I would expect, very poor regulation.

John Fields
Professional Circuit Designer

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