

## Re: Best Snubber for Nasty Spikes?

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**From:** Rolavine (rolavine\_at\_aol.com)

**Date:** 01/04/05

Date: 04 Jan 2005 17:43:06 GMT

>Subject: Re: Best Snubber for Nasty Spikes?  
>From: "Frithiof Andreas Jensen" >  
>  
>"Peter Kiproff" <peter@microtrendrobotics.ca> wrote  
>> What would be your recommendation?  
>  
>Buy some of those encapsulated RC networks that clip into the mounting  
>system (DIN Rail ... Clip\_on\_top\_of\_Relay ... Whatever) that the controls  
>are using; it looks much neater and the site technician can get/install new  
>ones, should the need arise. Discrete components are subject to abuse,  
>vibration, moisture e.t.c.  
>  
>The values are not that important – it seems to be a "one-size-fits-all"  
>device – shouldn't surprise me they are 47 Ohm, 0.1 uF as you say.  
>  
>PS:  
>  
>Diodes across relay coils are Evil:  
>  
>They are \*easily\* blown out by one of the many spikes in an industrial  
>environment; Especially the wimpy 1N4148 diodes that some designers are so  
>fond of. When that happens they will fail short, and then the the wires or  
>the controls will be damaged too! RC-Networks, MOV's or Tranzorbs (if one  
>absolutley **MUST** have a diode) will survive much longer!  
>  
>I prefer to put the voltage limiter across the \*driver\*,  
>contacts/transistor, not the coil, because it is the \*driver\* and not \*the  
>coil\* that needs overvoltage protection (and some site techies might forget  
>it if it is not soldered in ; -)!!  
>

Good points. How is a 1N4004 as a flyback eater diode? Is it fast enough? When I look up the specs they are not very specific about speed, since they are intended to be rectifiers, however when I test them they seem fast enough, my 100 meg scope shows no transient. If not a 1N4148, what is the stronger cheapest option? How about a BAW78? Do you think a coil driver really benefits from a faster clamping device?

Rocky