

Re: PID question

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- *From:* John Popelish <jpopelish@xxxxxxxx>
 - *Date:* Wed, 22 Nov 2006 21:36:19 -0500
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hondgm@xxxxxxxx wrote:

John Popelish wrote:

hondgm@xxxxxxxx wrote:

...Here's a drawing of how I understand it:

<http://www.yourfilehost.com/media.php?cat=image&file=Drawing1.jpg>

I wasn't sure about where the feedback goes. One problem, if the feedback path is correct as I have it, is that my current range is 0-2500 and the current range is 0-4000. Maybe it just has to be scaled.

The block you call Voltage setpoint would be one DAC output.

The block you call Current setpoint would be the second DAC output.

The PID current control drives the pass element that actually controls load current.

The measure of load current is the feedback to the PIC current controller.

The measure of voltage across the load is the feedback to the PID voltage controller.

Does that make more sense?

Well, not really. I was going to have only one DAC that provides the ref voltage for the regulator, then use that, along with the current sense value, to limit current. Remember the PID is being done in a micro, and the only analog I/O is one DAC out and one A/D measuring load current.

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I lost some of those details.

So the DAC provides the analog signal representing the output of low selector, (the setpoint for the analog PID current controller), and the ADC provides the load voltage measurement into the software PID voltage controller.

You will still need an analog current measurement to provide feedback for the analog PID current controller.

The only question left in my mind is whether or not the micro has the bandwidth to perform the PID voltage controller and low selector with adequate response.

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