

# PID question

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I'm working on a linear bench power supply using a microcontroller. My plan is to have a DAC set the output voltage, which will be regulated by a simple op-amp circuit.

An analog input on the micro will monitor load current. I plan on using this value to provide current limiting, via a PID algorithm controlling the set voltage. Some general PID tuning advice in a Microchip PDF says to first set Kp (with Ki and Kd set to 0) so the system is as stable as possible.

With only Kp set, the voltage output just follows the error. Not too helpful. Things got better when I added Ki. I'm not sure if I need Kd. This seems like a somewhat difficult problem because anything can be connected as a load.

I've searched the Internet, but nobody seems to be using PID in this way. I'm sure it is being done, however. What is some general advice on tuning this PID system? So much information out there seems to be related to motors and heaters.

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