ADS1115 may be destroyed

Moderators: adafruit_support_bill, adafruit

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jtomerli

Re: ADS1115 may be destroyed

Mon Apr 20, 2015 9:30 am

Thanks loek, I will definitely check that if the problem crops up.

jtomerli

Re: ADS1115 may be destroyed

Mon Jun 01, 2015 2:26 pm

> **loek wrote:**
> Hi jtomerli,
>
> Nice that everything is now as you expected it!
>
> If one day you should again have unstable outputs, put your DVM between the GND of the ADS1115 and any one of the 4 analog inputs. If you measure more than +5.3 V or less than -0.3 V.

then that analog input is outside it's electrical range and you may be "frying" the ADS1115. I suspect your shunt was/is pushing it's 2 analog inputs to +18 V thus causing the erratic behaviour.

OK, so all was well for more than a month, now I am back to having an erratic reading. It fluctuates from -25 to +225 mV. Normal/expected is around 70 mV. 7A through a 10A/100mV shunt.

loek, I checked the voltage from the ground rail to the A0 & A2 pins of the ADS1115 and it was well within the Vcc range. A0/A1 are reading the shunt, A2/A3 are reading a nominal 4V signal (24V behind a 6:1 voltage divider).
I am posting my latest findings here: viewtopic.php?f=22&t=73330&p=378433#p378433
Don't want to double post (i put a schematic on a thread with the ADS1115 and reading shunts), but I wanted to update my last post. Thanks.

loek

Re: ADS1115 may be destroyed
Tue Jun 02, 2015 2:06 am

Hi Jeff,

From your schematic I can't tell if the voltage-divider is just two resistors or if it also somehow connected to the Arduino? The fact that both PSU's might be "floating" could explain some erratic behaviour...

Not sure if you synchronise the analog measurements in any way with the PWM signal to the SSR? I assume you do and this code could be time critical and also lead to erratic results...

Loek.

jtomerli

Re: ADS1115 may be destroyed
Tue Jun 02, 2015 12:54 pm

OK, preliminary fix, I used a voltage regulator running off of the 24VDC PSU to supply 9.8VDC to the Mega 2560, readings are rock steady.
My assumption is that tying the main PSU ground to the Arduino through the V reg fixed the issue of the fluctuating DC shunt readings.

loek

Re: ADS1115 may be destroyed

Tue Jun 02, 2015 4:29 pm

Yes, as long as the GND of the 24V PSU (left side of the shunt) is connected to the GND of the Arduino and hence to the GND of the AD1115, you should be OK. If not, the PSU's float and any resulting potential difference is effectively also between the analog inputs and GND of the AD1115, exactly where you do not want any overvoltage!

Hope all stays stable now.

Loek.

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