ina3221.pdf

t=0x9dd50c8 [0,0]
Contents: [Dobrica PavlinuÅ¡iÄ 's random unstructured stuff]

i2c addresses

When I had more than one module, it was necessary to add solder bridges on all modules (even default gnd one) to make than all work, otherwise 0x40 won't work reliably.

all grounds tied together, single input voltage

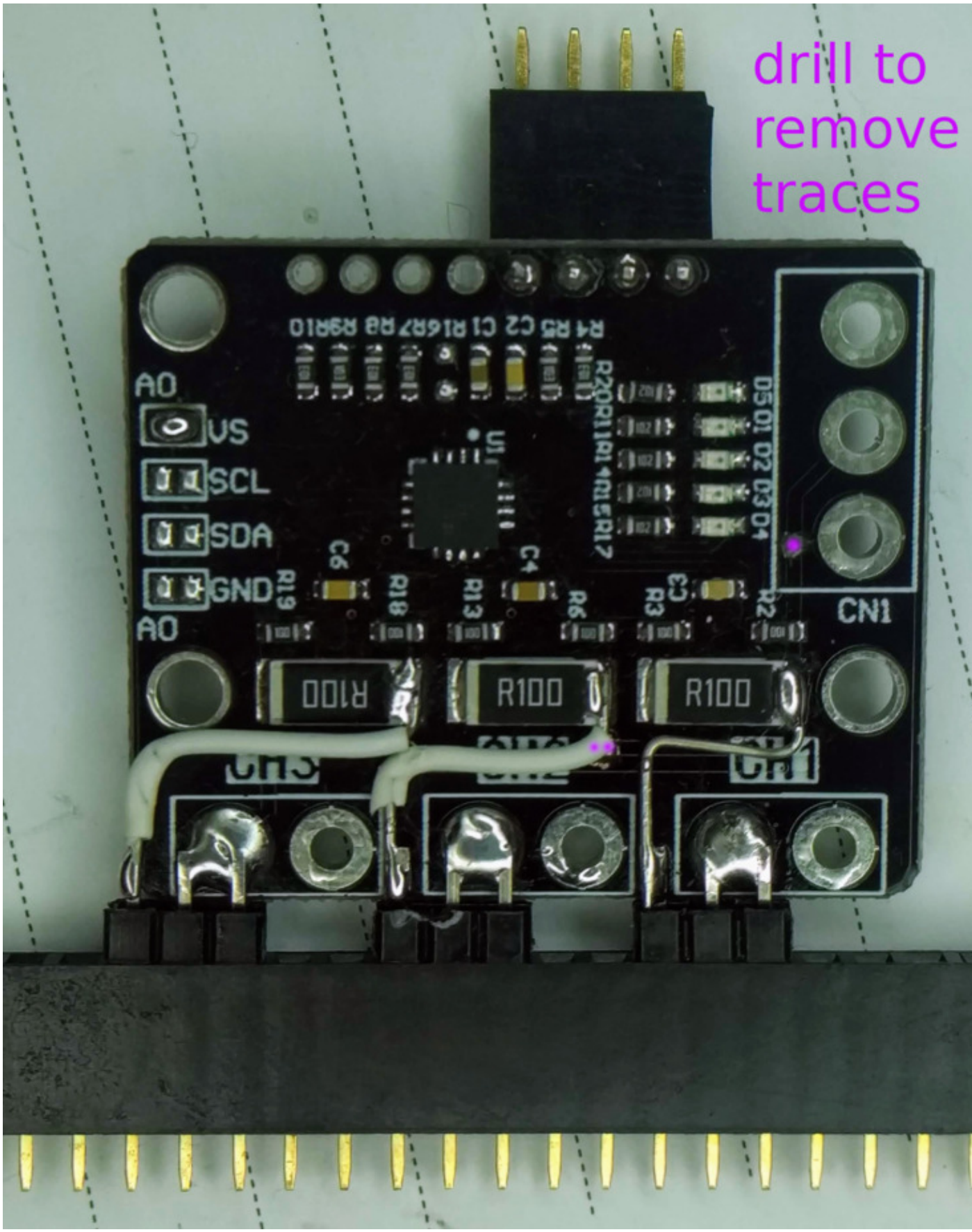
I have two versions of this modules purple and black, and they seem to have same problem:

- http://goingbacktoelectronic.blogspot.com/2017/09/ina3221-weird-wiring.html
- http://goingbacktoelectronic.blogspot.com/2017/09/fixing-ina3221.html

Alternative source with better pictures of modifications for multi-voltage support:

- https://kacitran.blogspot.com/2018/10/ina-3221.html

simplest modifications with just three holes and three wires


drill to
remove
traces
A0
VS
SCL
SDA
GND
A0
CN1
R100
R100
R100

Cutting traces on both sides of board seemed like too much for me, so I decided to use hand drill to scratch top side of board at three places
and disconnect ground and power input from resistors. Add three wires to connect new pin to connect load to or just connect any dupont wire
to use it as 10-bit voltage adc.

Linux setup

```
root@cubieboard:/home/dpavlin# modinfo ina3221
filename:       /lib/modules/4.19.25-sunxi/kernel/drivers/hwmon/ina3221.ko
license:        GPL v2
description:    Texas Instruments INA3221 HWMon Driver
author:         Andrew F. Davis <afd@ti.com>
alias:          of:N*T*Cti,ina3221C*
alias:          of:N*T*Cti,ina3221
alias:          i2c:ina3221
depends:
intree:         Y
name:           ina3221
vermagic:       4.19.25-sunxi SMP mod_unload ARMv7 thumb2 p2v8

root@cubieboard:/home/dpavlin# i2cdetect -y 2
     0  1  2  3  4  5  6  7  8  9  a  b  c  d  e  f
00:          -- -- -- -- -- -- -- -- -- -- -- -- --
10: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --
20: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --
30: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --
40: 40 -- -- -- -- -- -- -- UU -- -- -- -- -- -- --
50: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --
60: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --
70: -- -- -- -- -- -- -- --

root@cubieboard:/home/dpavlin# echo ina3221 0x40 > /sys/bus/i2c/devices/i2c-2/new_device
[Sun May 12 14:23:20 2019] i2c i2c-2: new_device: Instantiated device ina3221 at 0x40

root@cubieboard:/home/dpavlin# sensors
pcf8591-i2c-2-48
Adapter: mv64xxx_i2c adapter
in0:          +2.13 V
in1:          +2.55 V
in2:          +0.01 V
in3:          +1.32 V

ina3221-i2c-2-40
Adapter: mv64xxx_i2c adapter
in1:          +0.02 V
in2:          +0.02 V
in3:          +0.02 V
in4:          +0.00 V
in5:          +0.00 V
in6:          +0.00 V
curr1:        +0.00 A  (max = +16.38 A, crit max = +16.38 A)
curr2:        +0.00 A  (max = +16.38 A, crit max = +16.38 A)
curr3:        +0.00 A  (max = +16.38 A, crit max = +16.38 A)

# setup correct resistors:

root@cubieboard:/home/dpavlin# grep -A 2 ina3221 /etc/rc.local
echo ina3221 0x40 > /sys/bus/i2c/devices/i2c-2/new_device
sleep 1
ls /sys/devices/platform/soc/*.i2c/i2c-2/2-0040/hwmon/hwmon1/shunt*_resistor | xargs -i sh -cx 'e
```