Connecting TMC2130 in SPI mode in clipper on Trigorilla

denziko 05/06/2020 841 0 prints on Anycubic Kossel linear plus

PERSONAL DIARIES

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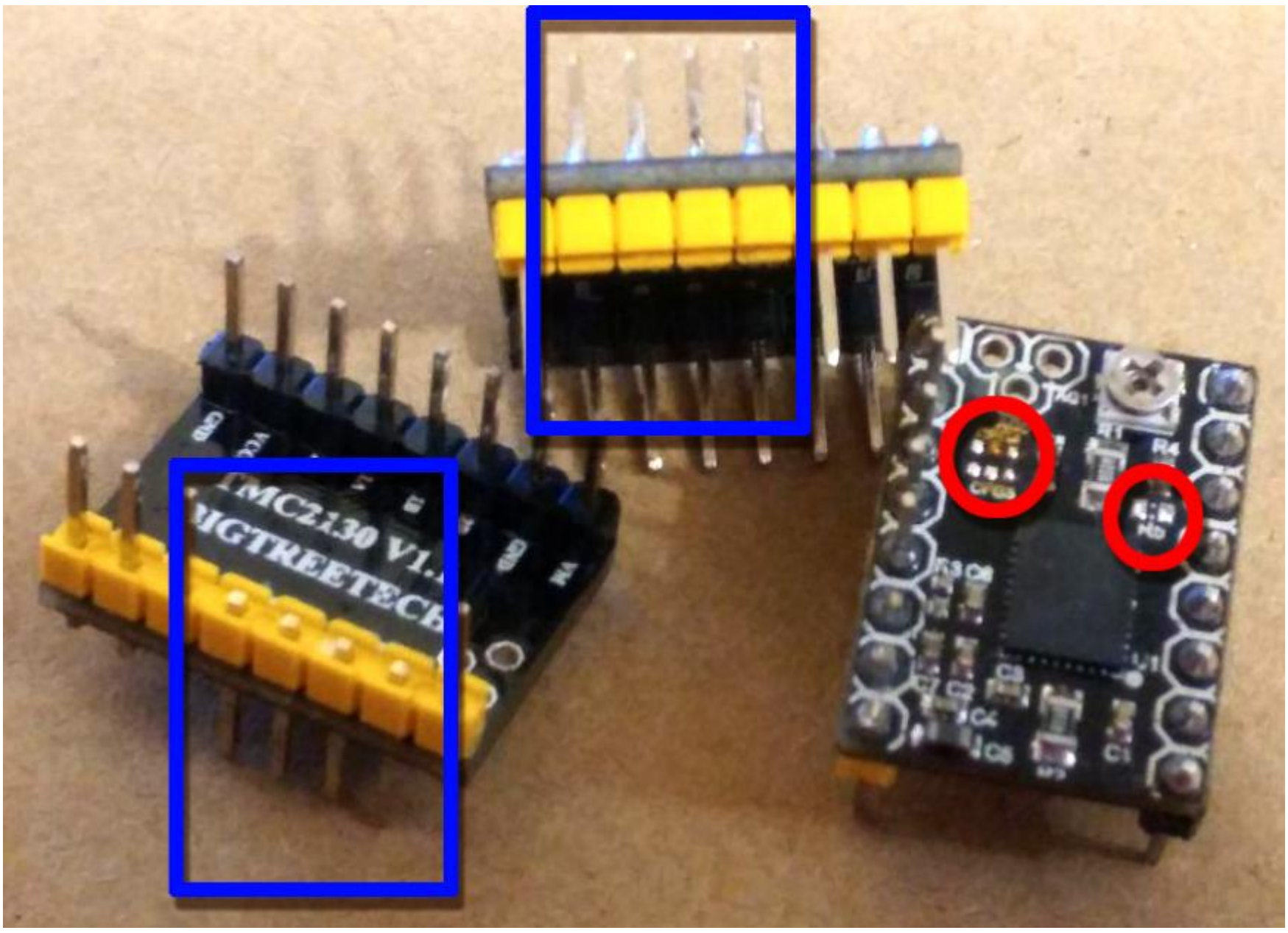
This article applies to printers: Anycubic Kossel linear plus

Configuring the tmc2130 clipper in spi mode :)

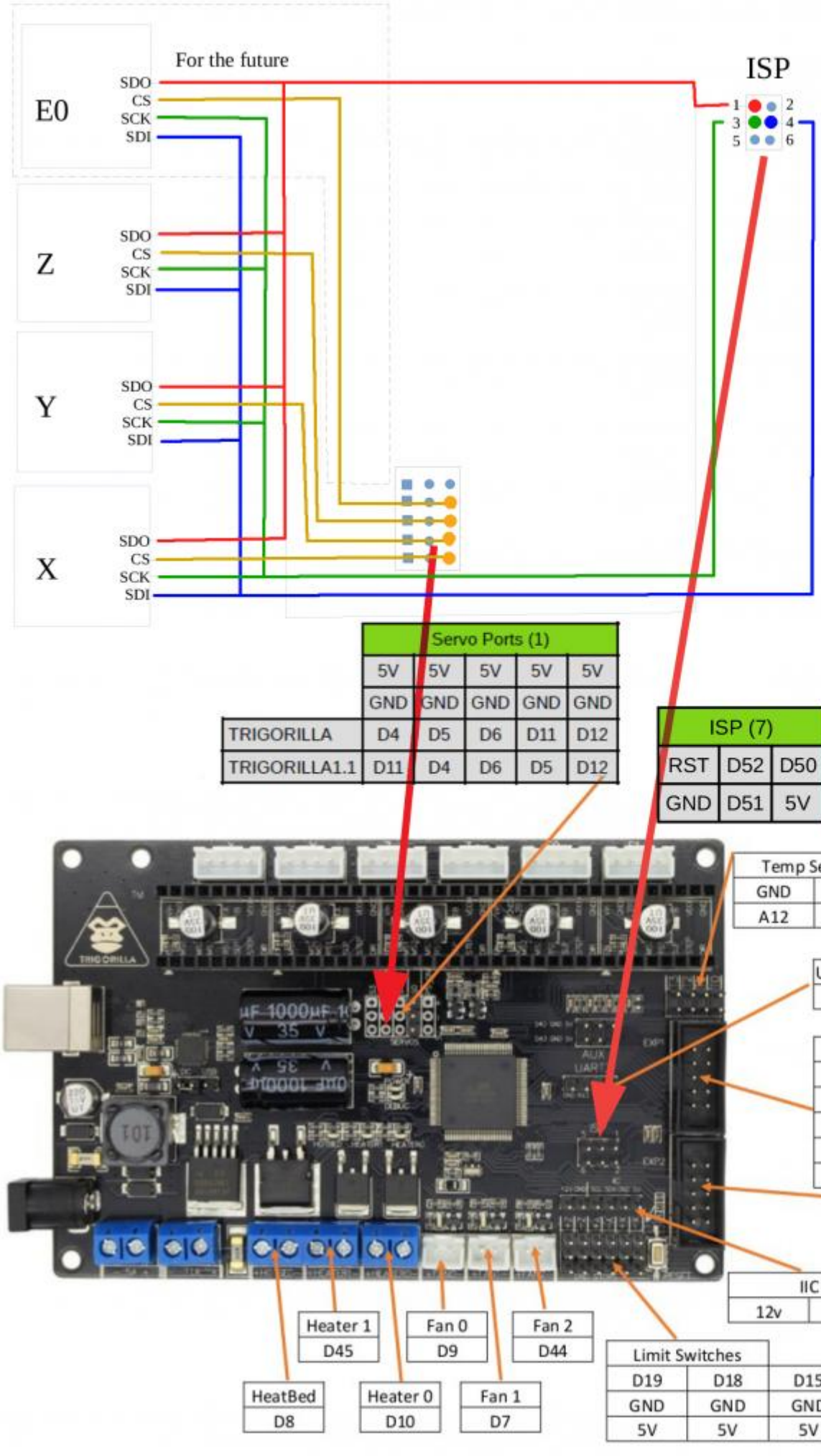
first, we take our 2130 and put it into SPI mode

1.solder the jumpers (in red circles)

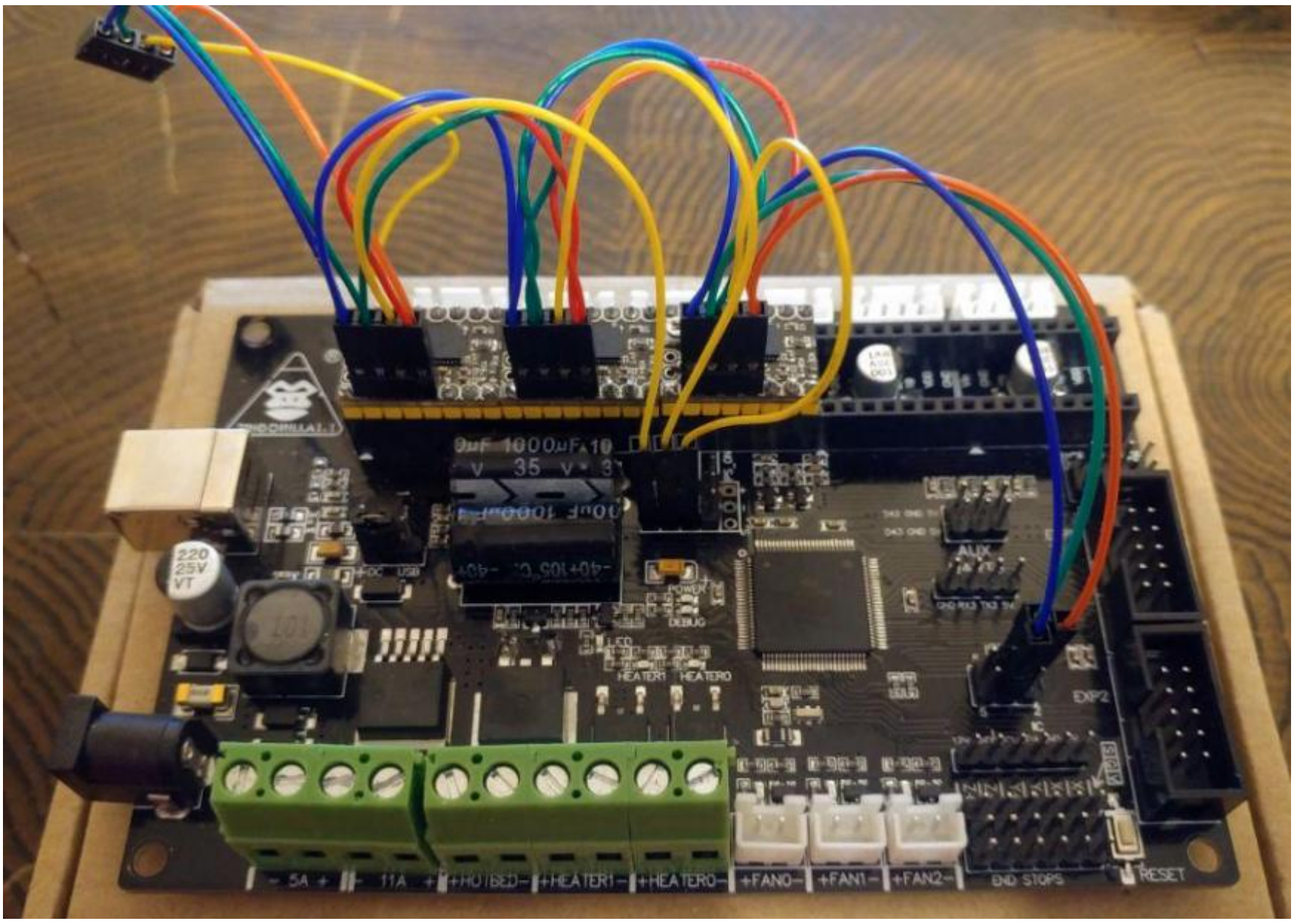
2.Cut down from below and build on top SDI SCK CS SDO legs (as in blue squares)



now you need to do the wiring according to this scheme



I got it like this



add a section about tmc21300 spi to our clipperoconfig

##

TMC2130 configuration

##

[tmc2130 stepper_a]

cs_pin: ar11

ar11 = D11 servo port

microsteps: 16

run_current: 1.000

hold_current: 0.500

stealthchop_threshold: 250

[tmc2130 stepper_b]

cs_pin: ar4

ar4 = D4 servo port

microsteps: 16

run_current: 1.000

hold_current: 0.500

stealthchop_threshold: 250

[tmc2130 stepper_c]

cs_pin: ar6

ar6 = D6 servo port

microsteps: 16

run_current: 1.000

hold_current: 0.500

stealthchop_threshold: 250

checking the connection of firewood

DUMP_TMC STEPPER =: This command will read the TMC driver registers and report their values.

for example, we enter DUMP_TMC STEPPER = stepper_a (and so for all engines - a, b, c; someone may have x, y, z)

and it should appear like this:

Send: DUMP_TMC STEPPER = stepper_a

Recv: // ========== Write-only registers ==========

Recv: // IHOLD_IRUN: 00081108 IHOLD = 8 IRUN = 17 IHOLDDELAY = 8

Recv: // TPWMTHRS: 00000029 TPWMTHRS = 41

Recv: // TPOWERDOWN: 00000000

Recv: // PWMCONF: 00050480 PWM_AMPL = 128 PWM_GRAD = 4 pwm_freq = 1 pwm_autoscale = 1

Recv: // COOLCONF: 00000000

Recv: // ========== Queried registers ==========

Recv: // GCONF: 00000004 en_pwm_mode = 1

Recv: // GSTAT: 00000000

Recv: // IOIN: 1100007c DCEN_CFG4 = 1 DCIN_CFG5 = 1 DRV_ENN_CFG6 = 1 DCO = 1 VERSION = 0x11

Recv: // TSTEP: 000fffff TSTEP = 1048575

Recv: // XDIRECT: 00000000

Recv: // MSCNT: 00000008 MSCNT = 8

Recv: // MSCURACT: 00f7000c CUR_A = 12 CUR_B = 247

Recv: // CHOPCONF: 14008384 toff = 4 hend = 7 TBL = 1 MRES = 4 (16usteps) intpol = 1

Recv: // DRV_STATUS: 80080000 CS_ACTUAL = 8 stst = 1

Recv: // PWM_SCALE: 00000046 PWM_SCALE = 70

Recv: // LOST_STEPS: 00000000

Recv: ok

[...]

Send: DUMP_TMC STEPPER = stepper_b

Recv: // ========== Write-only registers ==========

Recv: // IHOLD_IRUN: 00081108 IHOLD = 8 IRUN = 17 IHOLDDELAY = 8

Recv: // TPWMTHRS: 00000029 TPWMTHRS = 41

Recv: // TPOWERDOWN: 00000000

Recv: // PWMCONF: 00050480 PWM_AMPL = 128 PWM_GRAD = 4 pwm_freq = 1 pwm_autoscale = 1

Recv: // COOLCONF: 00000000

Recv: // ========== Queried registers ==========

Recv: // GCONF: 00000004 en_pwm_mode = 1

Recv: // GSTAT: 00000000

Recv: // IOIN: 1100007c DCEN_CFG4 = 1 DCIN_CFG5 = 1 DRV_ENN_CFG6 = 1 DCO = 1 VERSION = 0x11

Recv: // TSTEP: 000fffff TSTEP = 1048575

Recv: // XDIRECT: 00000000

Recv: // MSCNT: 00000008 MSCNT = 8

Recv: // MSCURACT: 00f7000c CUR_A = 12 CUR_B = 247

Recv: // CHOPCONF: 14008384 toff = 4 hend = 7 TBL = 1 MRES = 4 (16usteps) intpol = 1

Recv: // DRV_STATUS: 80080000 CS_ACTUAL = 8 stst = 1

Recv: // PWM_SCALE: 00000042 PWM_SCALE = 66

Recv: // LOST_STEPS: 00000000

Recv: ok

[...]

Send: DUMP_TMC STEPPER = stepper_c

Recv: // ========== Write-only registers ==========

Recv: // IHOLD_IRUN: 00081108 IHOLD = 8 IRUN = 17 IHOLDDELAY = 8

Recv: // TPWMTHRS: 00000029 TPWMTHRS = 41

Recv: // TPOWERDOWN: 00000000

Recv: // PWMCONF: 00050480 PWM_AMPL = 128 PWM_GRAD = 4 pwm_freq = 1 pwm_autoscale = 1

Recv: // COOLCONF: 00000000

Recv: // ========== Queried registers ==========

Recv: // GCONF: 00000004 en_pwm_mode = 1

Recv: // GSTAT: 00000000

Recv: // IOIN: 1100007c DCEN_CFG4 = 1 DCIN_CFG5 = 1 DRV_ENN_CFG6 = 1 DCO = 1 VERSION = 0x11

Recv: // TSTEP: 000fffff TSTEP = 1048575

Recv: // XDIRECT: 00000000

Recv: // MSCNT: 000003f8 MSCNT = 1016

Recv: // MSCURACT: 00f701f5 CUR_A = -11 CUR_B = 247

Recv: // CHOPCONF: 14008384 toff = 4 hend = 7 TBL = 1 MRES = 4 (16usteps) intpol = 1

Recv: // DRV_STATUS: 80080000 CS_ACTUAL = 8 stst = 1

Recv: // PWM_SCALE: 00000041 PWM_SCALE = 65

Recv: // LOST_STEPS: 00000000

Recv: ok

if scribbles are displayed or everywhere 00000000 or all ffffffff - it means that somewhere they were connected incorrectly, check