

## Test and EEprom Configuration Tool for SMC Extension

You need a serial terminal program with ANSI Support, like GTK-Terminal(Linux) or Putty(Windows) Settings: 115200 baud, 8N1

It is important to use the Optibootloader on the Mini-Pro.

use this commandline to flash the bootloader:

```
avrdude -pm328P -cstk500v2 -P/dev/ttyUSB0 -b115200 -u -Uflash:w:optiboot_atmega328.hex:a -Ulfuse:w:0xFF:m -Uhfuse:w:0xDE:m -Uefuse:w:0xFD:m -Ulock:w:0x3F:m
```

then flash the file SMC\_Test\_Config\_V16\_2.hex to Mini-Pro.

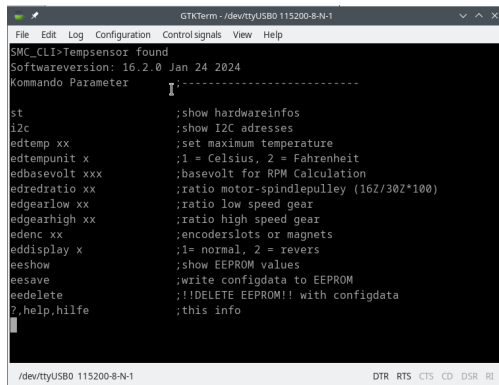
After that start serial terminalprogramm, „help“ show all possible commands

Command "st" shows the hardwarestatus of all buttons, switches, encoder, RPM sensor, Temperature Sensor.

first turn the encoder, after that push all buttons, switches, RPM.

If all IO runing, every status is green or red.

after Arduino Reset



```
GTKTerm - /dev/ttyUSB0 115200-8-N-1
File Edit Log Configuration Control signals View Help
SMC_CLI>Tempsensor found
Softwareversion: 16.2.0 Jan 24 2024
Kommando Parameter :-----
st                ;show hardwareinfos
i2c               ;show I2C addresses
edtemp xx        ;set maximum temperature
edtempunit x     ;1 = Celsius, 2 = Fahrenheit
edbasevolt xxx   ;basevolt for RPM Calculation
edredratio xx    ;ratio motor-spindlepulley (16Z/30Z*100)
edgearlow xx     ;ratio low speed gear
edgearhigh xx    ;ratio high speed gear
edenc xx         ;encoderslots or magnets
eddisply x       ;1= normal, 2 = revers
eeshow           ;show EEPROM values
eesave          ;write configdata to EEPROM
eedelete         ;!!DELETE EEPROM!! with configdata
?,help,hilfe     ;this info
```

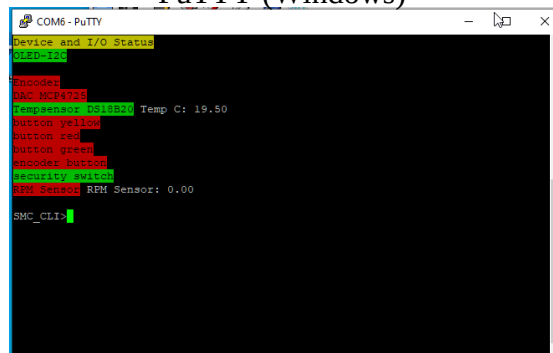
Statusscreen with command „st“

GTK-Terminal (Linux)



```
GTKTerm - /dev/ttyUSB0 115200-8-N-1
File Edit Log Configuration Control signals View Help
Device and I/O Status
BLEED-I2C
Encoder
DAC MCP4722
Tempsensor DS18B20 Temp C: 19.50
button yellow
button red
button green
encoder button
security switch
RPM Sensor RPM Sensor: 393.52
SMC_CLI>
```

PuTTY (Windows)

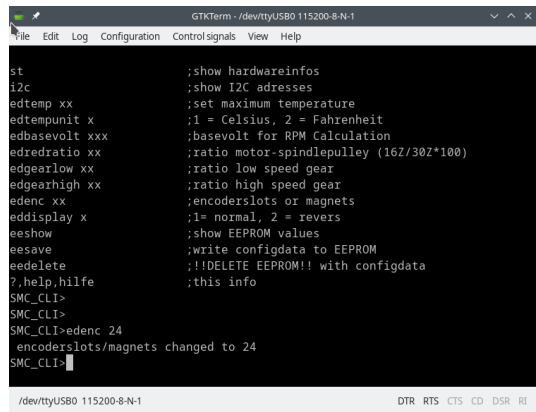


```
COM6 - PuTTY
Device and I/O Status
BLEED-I2C
Encoder
DAC MCP4722
Tempsensor DS18B20 Temp C: 19.50
button yellow
button red
button green
encoder button
security switch
RPM Sensor RPM Sensor: 0.00
SMC_CLI>
```

Eeprom configuration:

example:

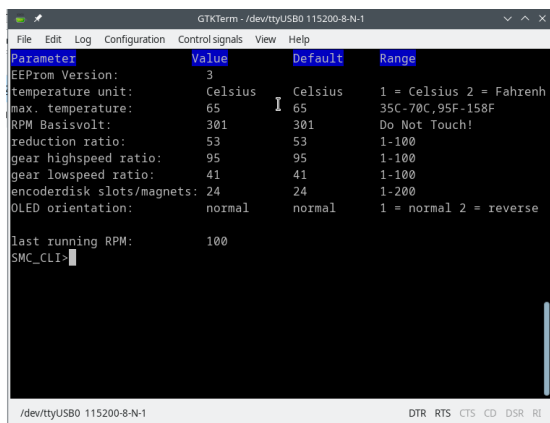
set # of encoder/magnets for the RPM-Sensor to 24,  
command: „edenc 24“



```
GTKTerm - /dev/ttyUSB0 115200-8-N-1
File Edit Log Configuration Control signals View Help

st          ;show hardwareinfos
i2c         ;show I2C addresses
edtemp xx   ;set maximum temperature
edtempunit x ;1 = Celsius, 2 = Fahrenheit
edbasevolt xxx ;basevolt for RPM Calculation
edredratio xx ;ratio motor-spindlepulley (16Z/30Z*100)
edgearlow xx ;ratio low speed gear
edgearhigh xx ;ratio high speed gear
edenc xx    ;encoderslots or magnets
eddisplay x ;1= normal 2 = revers
eeshow      ;show EEPROM values
eesave     ;write configdata to EEPROM
eedelete    ;!!DELETE EEPROM!! with configdata
? help,hilfe ;this info
SMC_CLI>
SMC_CLI>edenc 24
encoderslots/magnets changed to 24
SMC_CLI>
```

„eeshow“ shows all setting and default values



```
GTKTerm - /dev/ttyUSB0 115200-8-N-1
File Edit Log Configuration Control signals View Help

Parameter  Value      Default    Range
EEProm Version: 3
temperature unit: Celsius Celsius 1 = Celsius 2 = Fahrenheit
max. temperature: 65 65 35C-70C,95F-158F
RPM Basisvolt: 301 301 Do Not Touch!
reduction ratio: 53 53 1-100
gear highspeed ratio: 95 95 1-100
gear lowspeed ratio: 41 41 1-100
encoderdisk slots/magnets: 24 24 1-200
OLED orientation: normal normal 1 = normal 2 = reverse

last running RPM: 100
SMC_CLI>
```