

### Help Sourcecode SmartPI

The main sourcecode is the “**all\_rrd.c**”.

This code is written in C.

If the program started, the Raspberry Pi connected to the SmartPI via i<sup>2</sup>c.

All values (current, voltage, power, cos, frequenzy) are measured.

The sourcecode “**smartpi\_web.py**” (written in python) calls the c-program (all\_rrd.c) every 20 seconds and stores the measured data in a text file (Smartpi\_Value.txt).

The stored values are separated with an “:”.

current\_1:current\_2:current\_3:current\_N:voltage\_1:voltage\_2:voltage\_3:power\_1:power\_2:  
power\_3:cosphi\_1:cosphi\_2:cosphi\_3:frequenz\_1:frequenz\_2:frequenz\_3

The measured values are stored in an rrd-database also.

The name is “smartpi.rrd”.

The data for the graphics of the web-frontend (<http://192.168.2.22/smartpi/>)

are from this database (smartpi.rrd)!

The diagrams are also generated in the program “smartpi\_web.py” (rrd-tool).

The sourcecode, “**webserver.py**”, realizes the REST-API.

In this python-code other c-programs are called like current.c, voltage.c, etc.

The c-programs get the data from the text file “Smartpi\_Value.txt”.