SMARTFOX Pro 2

Operating instructions

Manual Version 12 - 04.2022 SMARTFOX

Version - EM2 00.01.03.17 | V.3.17

www.smartfox.at

DECLARATION SAFETY INSTRUCTIONS

WARNING
Non-compliance can lead to damage to property and personal injury. The instructions given must therefore always be observed or implemented!

ATTENTION
Non-compliance can lead to malfunctions or damage to the unit. The instructions given must therefore always be followed or implemented!

NOTE
Useful tips to support you during commissioning. The instructions given are not mandatory.

TABLE OF CONTENTS

GENERAL INFORMATION

General Notes

These operating instructions are part of the scope of delivery. They contain the information required for proper use. They are intended for electrical engineering personnel or specialists who are familiar with the installation, assembly and commissioning of the product described here. If further information is required, it can be requested from the contact details on page 44.

Conformity

This appliance complies with the provisions of the Directive of the Council of the European Communities on the approximation of the laws of the EC Member States relating to electromagnetic compatibility, EMC Directive 2004/108/EC, and the Low Voltage Directive 2006/95/EC.

Application

The "SMARTFOX Pro 2" energy consumption controller is used to optimise self-consumption to a maximum in electrotechnical systems with self-power generation. All relevant data for the application are measured, displayed and used for the control. The measured values are stored if desired when a microSD card is activated and shown on the 2-line (2x16 digits) display. Displayed measured values are voltage L1 L2 L3 current L1 L2 L3 power L1 L2 L3 and the total currents and powers. Calculated values are PNutz, work, energy, regenerated energy. Other values displayed are frequency, status of the 4 relays, date and time, SD card status, SD card free memory, Ethernet IP and the MAC address.

Function

The currents to be measured are measured either directly via the supplied current transformers or via additional current transformers. The voltage is always measured directly (according to the connection diagram). The main function of the unit is to detect the current surplus energy, calculated by U.I, and thus to control a continuously controllable consumer with exactly this amount of energy. This is done via the analogue outputs 0/1-10V or 0/4-20mA. In addition, 4 relay make contacts with freely selectable power and switch-on times per day are available.

SCOPE OF DELIVERY & TECHNICAL DATA

Scope of delivery

1x SMARTFOX Pro 2 energy consumption controller 1x Micro SD Card
1X Current transformer 3-phase up to 80A | 100A

Technical data	SMARTFOX Pro
Rated current 4995A	80A | 100A or via additional transformer
Nominal voltage	3X230V/400V
Voltage range	185-265V
Nominal frequency	50Hz
Self-consumption	4W
Overload continuous	Voltage max. 265V, current 260A
Surge overload	Voltage 1000V 65µs
Relay switching	5A/250VAC |max. resistive Consumer
View	2-line display here the current values can be read by pressing the keys.
Analogue outputs	0-10 VDC | 1-10VDC 0-20mA | 4-20mA
Connections	L1/L2/L3/N/PE 3xL 1xN 1xPE 1.5mm² Relay 1-4 4x 2x1,5mm² Analogue outputs pluggable Gnd/I+/V+/24VDC1mm² Converter Pluggable 1xRJ12 6pol.
Interfaces	WLAN | 100Mbits/s Ethernet LAN
Communication	S0 input | CAN | RS485
Temperature input	PT1000

SCOPE OF DELIVERY & TECHNICAL DATA

REGULATIONS

EMC	DIN EN61326
Mechanical strength	DIN EN 61010 Part 1
Electrical safety	DIN EN 61010 Part 1 Housing with protective insulation, protection class II, for working voltages up to 600V (mains to neutral) pollution degree 2, measurement category CAT III
Accuracy, overload air	DIN EN 60688
Disconnection	DIN EN 61010 Part 1, 3, 3KV 50Hz 4s
and creepage distance	DIN EN 61010 Part 1
Protection class	DIN EN 60529 Housing IP21
connection	DIN 43807

WARNING!
This unit may only be installed by a qualified electrician, otherwise there is a risk of fire or electric shock!

Dimensions [WxHxD]
147mm x 90mm x 58 Width 8TE

Assembly
Top-hat rail mounting. At ambient temperatures of >45°C, however, a distance of 10mm is recommended. The mounting location should be as vibration-free as possible and must not exceed an ambient temperature of 55°C.

Electrical Connection
The regulations for the installation of electrical systems must be observed, according to DIN 43807, via screw connection max. 1.5mm². When installing the current Whe
n installing the current transformer, the correct current direction K and L must be observed (K corresponds to the power supply company side, L corresponds to the system side).

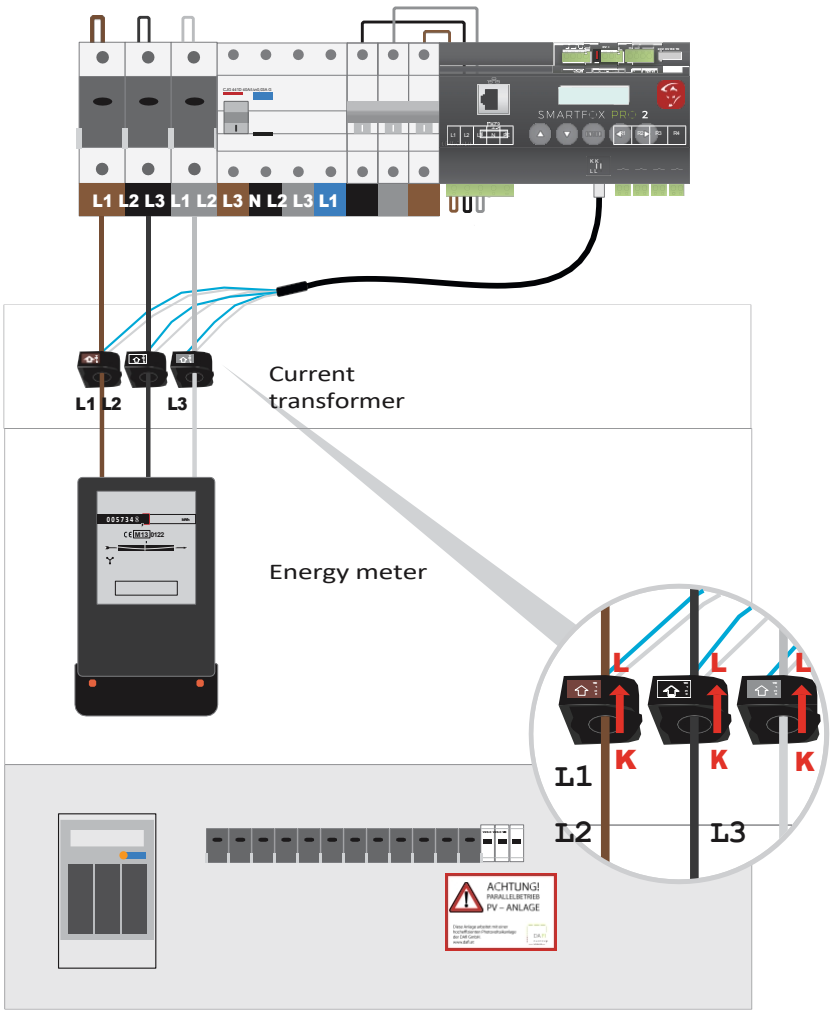
ATTENTION!
When connecting the voltage input variable, the assignment to the current connection is important, i.e. the respective terminal of the voltage connection must also be located in the outer conductor in which the current transformer is located.

Hedging

REGULATIONS

When connecting, ensure that a suitable back-up fuse is used (line protection). The unit itself is internally fused.

INSTALLATION OF THE SMARTFOX CURRENT TRANSFORMER



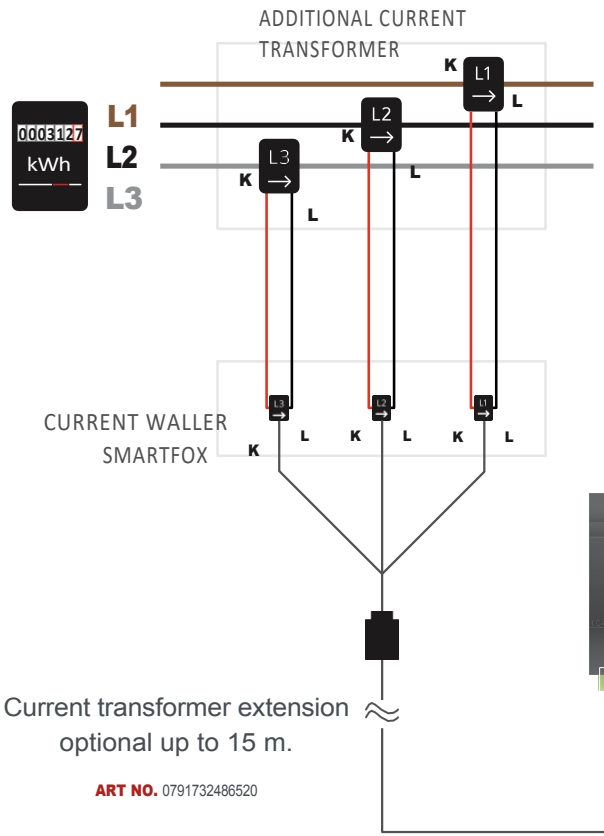
Post-counter field

Counter field

Pre-counter field

Attention! The SMARTFOX current transformers must always be connected as shown in the picture above. (Arrows point in the direction of the consumer).

SMARTFOX ADDITIONAL CURRENT TRANSFORMER

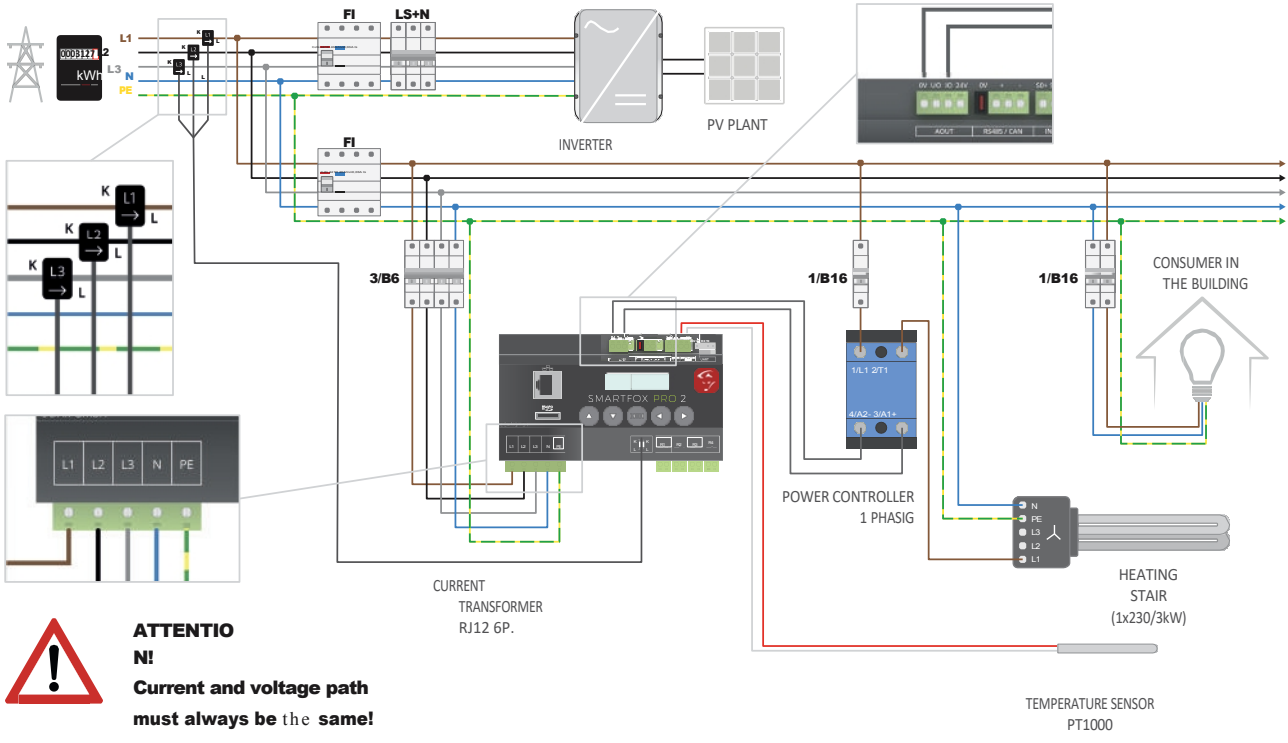


1. SW divisible 200A with cable
ART NO. 0791732486490
2. SW 200A / 5A closed
ART NO. 0791732486636
3. SW 500A / 5A closed
ART NO. 0791732486667
4. SW divisible 500A / 5A with cable
ART NO. 0791732486650

WARNING!
The SMARTFOX current transformer cable must not be cut (loss of warranty).

NOTE!
The SMARTFOX current transformer set can be extended up to 15m. A suitable current transformer extension must be used for this.

CONNECTION DIAGRAM POWER CONTROLLER & HEATING ROD 1-PHASE

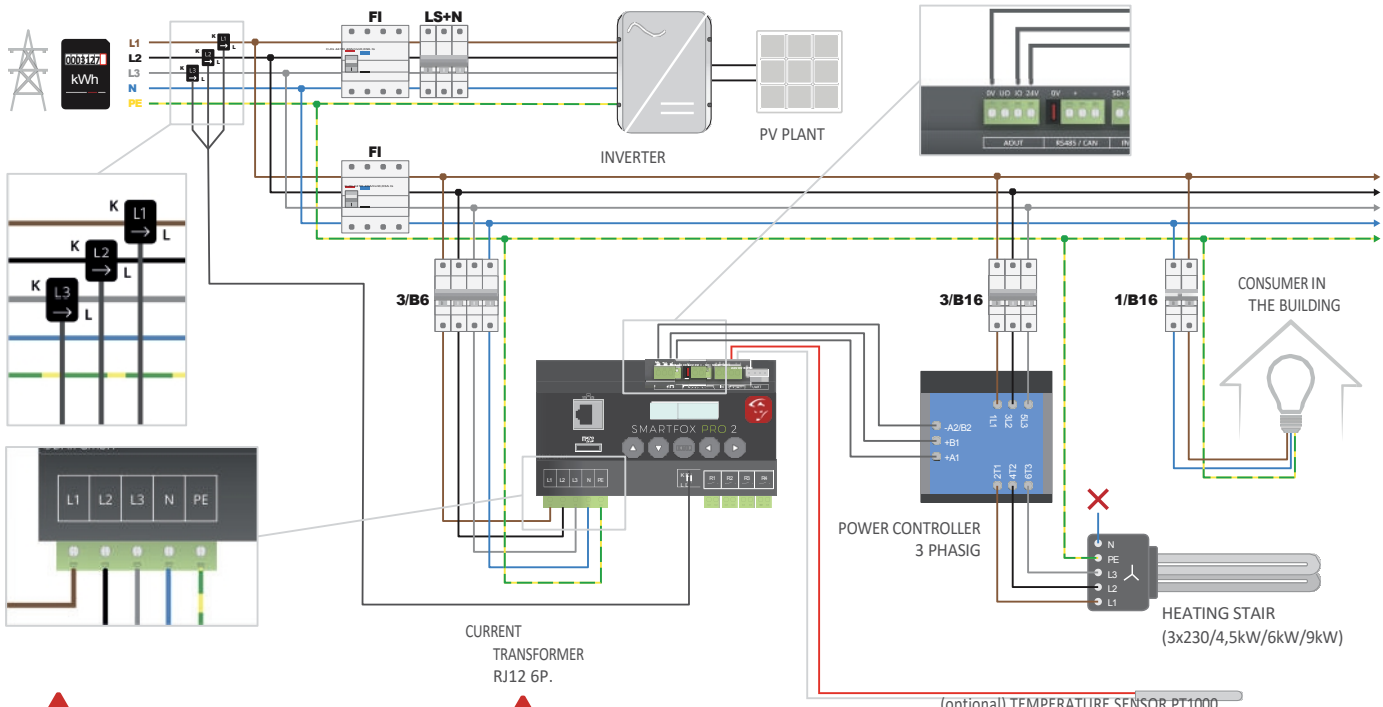


ATTENTIO N!

Current and voltage path must always be the **same!**

OPTIONAL

CONNECTION DIAGRAM POWER CONTROLLER & HEATING ROD 3-PHASE



ATTENTIO N!

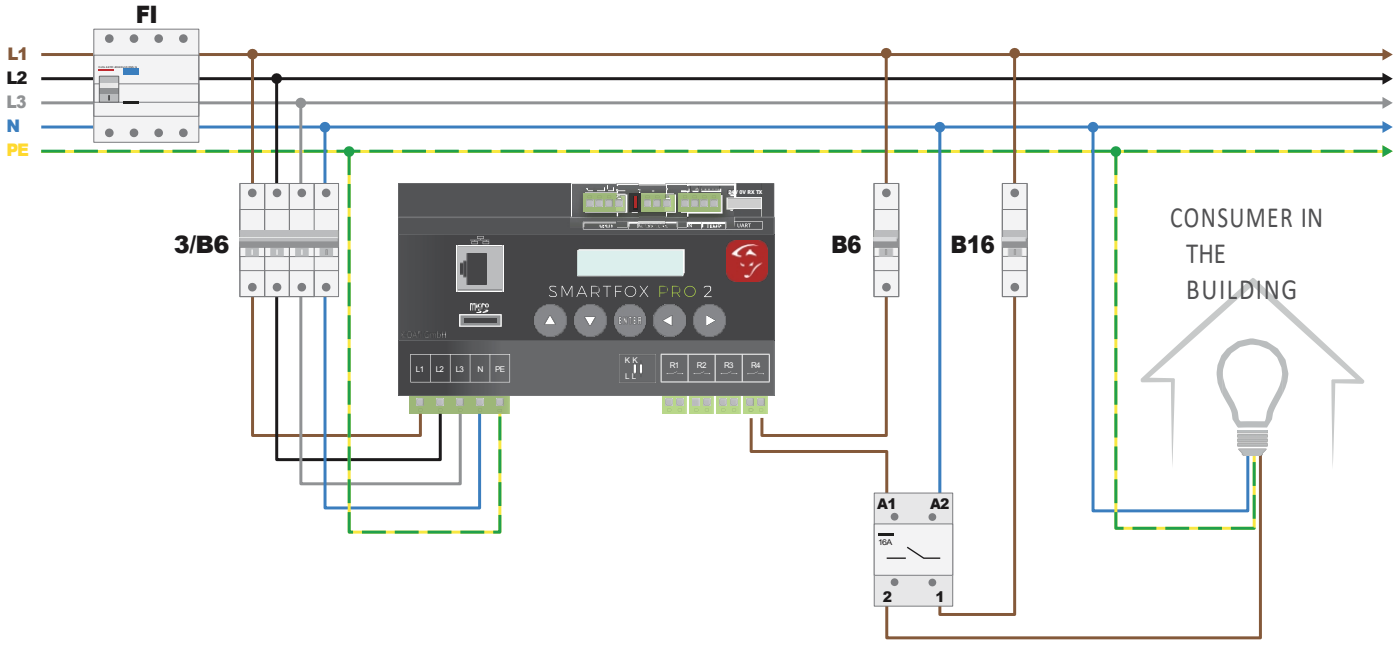
Current and voltage path must always be the same!

ATTENTIO N!

Star connection required. NO NEUTRAL CONDUCTOR AT STAR POINT ! Only balanced loads

po **ssible!**

CONNECTION DIAGRAM CONSUMER VIA RELAY

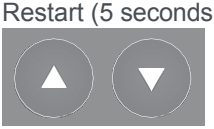


NAVIGATING THROUGH THE MENU

Use the arrow keys left or right to scroll through the menu. To change a value/setting, press the Enter key (cursor starts flashing). Use the arrow keys up or down to change the set value. To navigate to the first line, press the left arrow key repeatedly until the cursor jumps to the first line (cursor must flash).

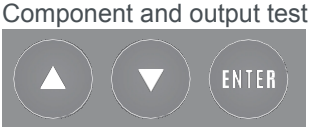
Key combinations

Restart (5 seconds)



Firmware update (10 seconds)

Component and output test (5 seconds)



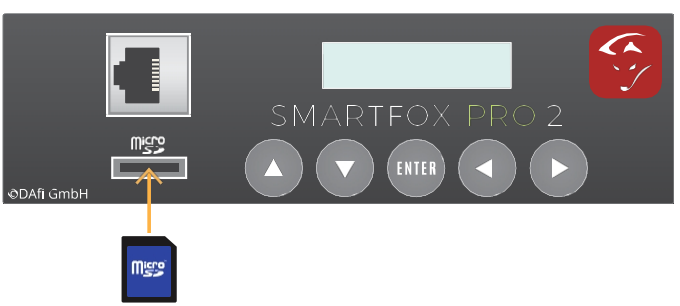
INSTRUCTIONS FOR FIRMWARE UPDATE

1. Download firmware from www.smartfox.at/downloads.
Version EM2 00.00.01.37

2. Remove the SD card.

3. Unzip the downloaded file and copy the .bin file into the main directory of the SD card.

4. Insert the SD card into the unit.



5. Press and hold the left and right arrow keys simultaneously for 10 seconds.

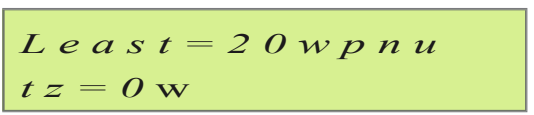
6. When the buttons are released, the display flashes several times and the update is started.

7. After the update, check the firmware version on the display!

DISPLAY OF THE MEASURED VALUES

NOTE!
After connecting the power supply, the unit starts and automatically switches to the menu DISPLAY MEASUREMENTS.

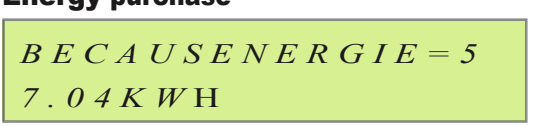
Performance and PNutz



POWER = 20W The current power is displayed. 20 Watt current consumption, drawn from the mains. There is a return delivery to the mains when a minus value is displayed, e.g. -20W.

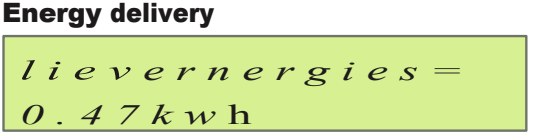
PNUTZ= 500W. Currently, 500W is used via the analogue output (stepless). This is a calculated value according to the setting of the nominal load and the level of the analogue output. As soon as ANALOG OVERV is displayed under PNUTZ, analogue monitoring is active. This means that the connected consumer is no longer consuming power (e.g. thermostat of the heating element has switched off). After 5 minutes, the system checks again to see if the consumer is consuming power again.

Energy purchase



Purchased energy = The total energy purchased from the grid.

Energy delivery



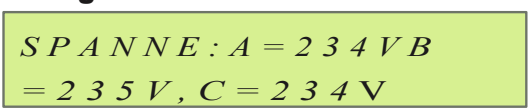
Delivery energy = The total energy fed back into the grid.

DISPLAY OF THE MEASURED VALUES

Analogue output energy

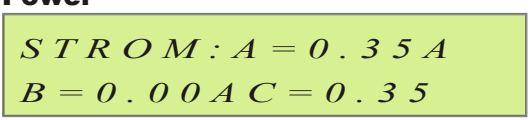
Analogue output energy = the total energy used by SMARTFOX/analogue output.

Voltage



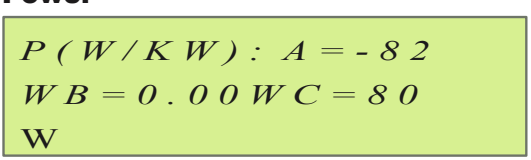
Voltage A=234V B=235V, C=236V. The measured mains voltage per phase is displayed. (A=L1, B=L2, C=L3).

Power



Current A= 0.35A B= 0.00A C=0.35A. The measured current per phase is displayed (A=L1, B=L2, C=L3).

Power



P(W/kW): A=-82W B=0.00W C=80W. The measured power is displayed (A=L1=- 82W, B=L2=0.00W, C=L3=80W). 82 watts are fed back into the mains on conductor L1. fe

d back into the mains. 80 watts are drawn from conductor L3. The sum of the 3 conductors gives the total power (Pges = -82W + 0W + 80W =-2W supply to the mains).

Frequency

Frequency: 50.1Hz, The current mains frequency is displayed. (50.1Hz)

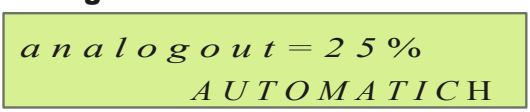
DISPLAY OF THE MEASURED VALUES

DISPLAY OF THE MEASURED VALUES

Temperature

If a suitable sensor is connected to the PT1000 interface, the measured temperature is displayed here.

Analogue out

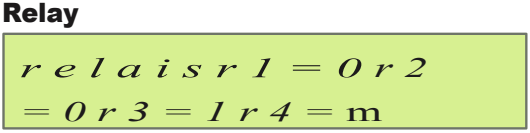


ANALOGOUT = 25%. The current level of the analogue output is displayed. There are 3 operating modes available:

1. Switched off: The output is switched off and is not controlled.
2. Automatic: The output is automatically controlled by the SMARTFOX depending on the surplus situation.
3. Manual: The output can be set to a pro- cess value regardless of the surplus situation.

ATTENTION! Energy can be drawn from the mains.

Relay



RELAY R1-R4: The current switching state of the relay is displayed. There are 3 operating modes available:
0: The relay is switched off.
1: The set switch-on condition is fulfilled, the relay has been switched on by the SMARTFOX .
M: The relay can be switched on regardless of the surplus situation.

ATTENTION! Energy can be drawn from the mains.

DISPLAY OF THE MEASURED VALUES

Car Charger

```
CC-VALUE=000%CO
NSUMPLEMENT
```

CC-VALUE the current control level of the charging station is displayed. The current charging mode is displayed.

1. **Switched off** - the charging station does not release a charge
2. **Excess charge** - automatic control by SMARTFOX
3. **Forced charging** - manual charging, the desired CC value must be set.

ATTENTION! Energy can be drawn from the mains.

SD card setting

```
SDCARDEINFR
EI1890MB
```

If a micro SD card is inserted and the setting is activated, all measurement data are written to the SD card at intervals of 30s. The unit creates a separate CSV file for each day (24h). Before removing the SD card, set the setting to "OFF". Micro SD cards up to 8GB are supported. The SD card must be formatted to FAT32. The free memory of the card is displayed in the second line.

PV Power and Energy

```
PV-P=0.00KWP
V-E=0.00KWH
```

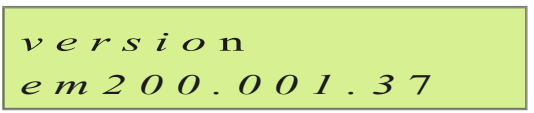
PV-P= The current produced power of the selected inverter. PV-E= The total energy produced by an inverter. Display as soon as an inverter has been connected.

Battery

```
bATTERIE
soc=90%
```

The current state of charge (SOC) of the read-out battery is displayed.

Version

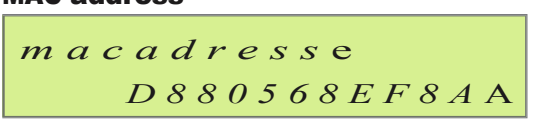


The currently installed software version is displayed.

WLAN - Version

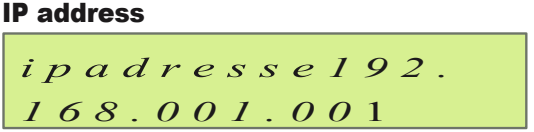
The currently installed WLAN VERSION is displayed.

MAC address



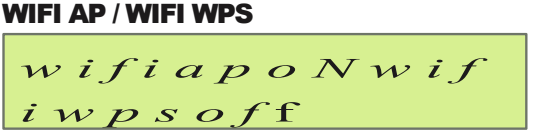
The MAC address of the device is displayed. This is required to integrate the SMART- FOX into the web portal [my.smartfox.at.](my.smartfox.at)

IP address



The currently obtained IP address is displayed.

WIFI AP / WIFI WPS



The access point and the WPS function of the SMARTFOX device can be activated here.

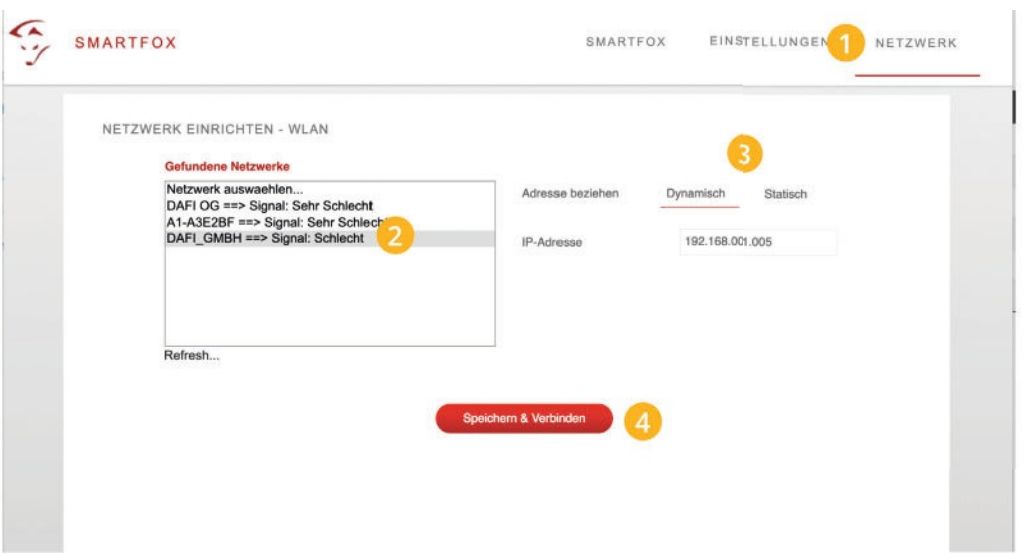
WIFI Access Point

If you set AP to ON, the SMARTFOX activates its access point. A WLAN with the name Smartfox_AP is now available. You can now connect to the SMARTFOX WIFI with your smartphone, laptop or tablet. To do this, open your network settings on the laptop, for example, and select the WLAN Smart-

fox_AP off. The PC will automatically connect to the SMARTFOX network (no password required). Open your web browser and enter the IP address 192.168.250.181. You can now access the SMARTFOX via the web interface, make settings or switch outputs.

Connection WLAN via access point

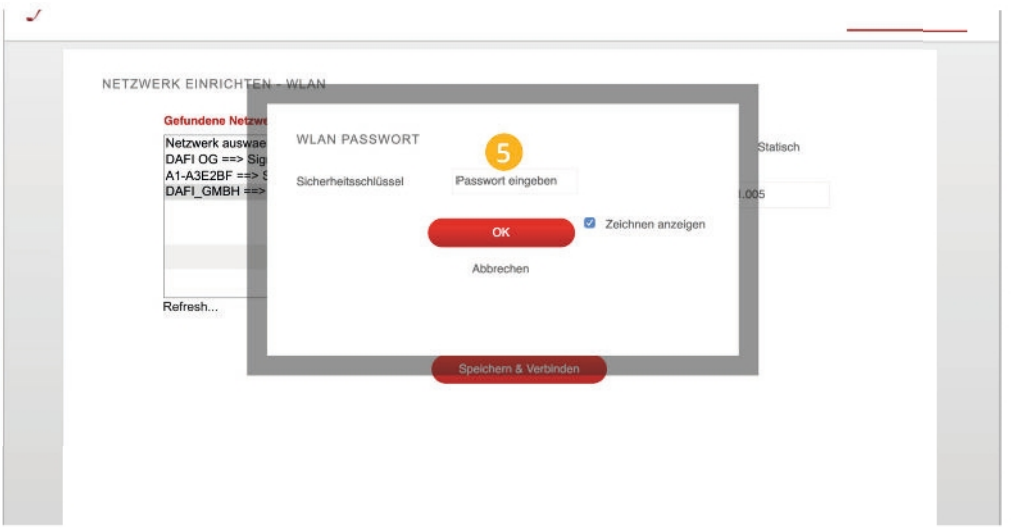
If you are connected to the access point of the SMARTFOX, the unit can be paired with an Internet-capable WLAN in the "NETWORK" menu.



1. Select the menu item "NETWORK
2. Select the desired WLAN to which the SMARTFOX should connect.

NOTE!
Check the signal strength of the WLAN, preferably with the distribution door closed.

3. Select "Dynamic" if the network configuration is to be carried out automatically. (DHCP)
Select "Static" if the IP address is to be assigned permanently.
4. Click on "Save & Connect".



5. Enter the WLAN password and click on "OK".

SMARTFOX deactivates the access point and connects to the registered WLAN or Internet.

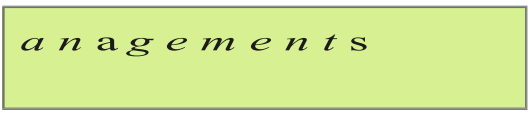
6. Connect your laptop, smartphone... to the same network that was selected on the SMARTFOX. The SMARTFOX can now be reached locally via the obtained IP address or http://dafi-smartfox. If the WLAN is Internet-enabled, the SMARTFOX can now be connected to the web portal my.smartfox.at.

Connection WLAN via WPS

1. Press the WPS button on your router
2. On the SMARTFOX, set the WIFI WPS setting to "ON".

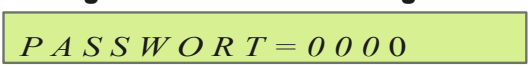
The SMARTFOX now connects to the router's transmitted WLAN.

NOTE!
WPS2 cannot be used because password entry is not possible on the SMARTFOX. In this case, use the connection via the access point.



By clicking on the ENTER button you enter the measured values menu.
The descriptions of the submenus can be found in the section "Displaying the measured values".

Getting started with the settings



To enter the settings menu, enter the password 2345 and confirm with EN- TER.
The descriptions of the submenus can be found in the "Settings" section.

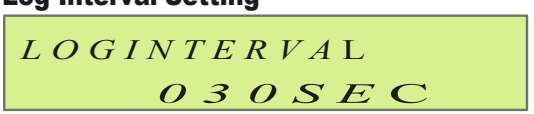
NOTE!
All settings can also be made internally via local network access or the my.smartfox.at web portal.

Current transformer

When connecting with the supplied standard 80A or 100A converters (RJ12 plug), 1:1 is set here. With additional transformers, you can choose between 2 and 999, depending on the transformer ratio (e.g. 200:5 transformer results in a ratio of 40:1 200:5=40). Thus, a maximum transformer ratio of 4995A can be achieved with 5A transformers.

NOTE!
For connection of additional transformer, see page 8.

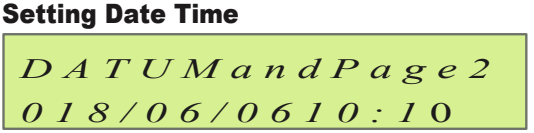
Log Interval Setting



All measured values are written to the SD card at the set log interval. A minimum log interval of 30s can be set.

ATTENTION!
No data is saved if the SD card is not activated.

Setting Date Time



Setting the date and time.

Synchronisation time server (NTP)

Activated: The time is automatically synchronised by the NTP server.

Deactivated: The time is not synchronised. The system time of the Smartfox must be set manually

Time zone

The current time zone can be selected here.

Fernwartung

To be able to carry out parameterisation via the web interface, this must be set to ON.

Network

Select the desired LAN / WLAN interface with which the SMARTFOX is to connect to the Internet.

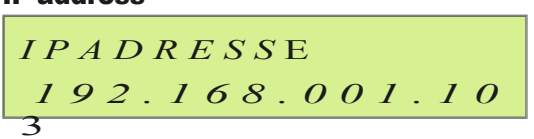
DHCP

DHCP ON: The network settings (IP, netmask, gateway) are queried

qu

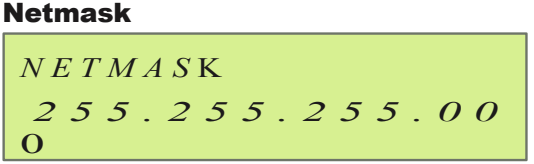
eried automatically by the router.
DHCP OFF: The network settings (IP, Netmask, Gateway) can be selected manually.

IP address



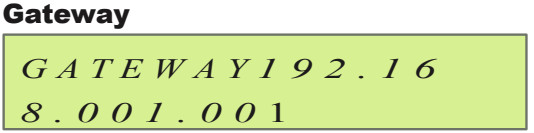
The current IP address is displayed. Setting only possible if DHCP: "OFF" has been selected.

Netmask



The current netmask is displayed. Setting only possible if DHCP: "OFF" has been selected.

Gateway



The current gateway is displayed. Setting only possible if DHCP: "OFF" has been selected.

Server IP

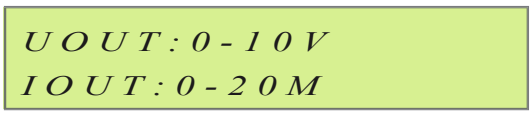
The IP address of the my.smartfox.at server is 93.189.25.182. Port TCP80 & TCP5000 are required to connect to the server.

Upload interval

Specifies the upload interval at which archive data (energy, power...) are uploaded from the Smartfox to the portal.

A minimum interval of 15min can be set. (This setting has no influence on the connection of the Liveview).

U/IOUT



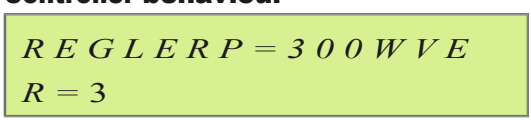
Voltage output - UOUT

Setting of the voltage output. It can be selected between 0-10V & 1-10V. The voltage output is pre-parameterised to 0-10V by default.

Current output - IOUT

Setting of the current output. You can choose between 4-20mA and 0-20mA. The current output is already pre-parameterised to 4-20mA.

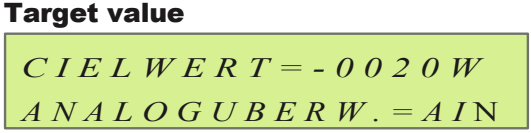
Controller behaviour



Set the nominal power of the connected consumer (heating rod) here. The setting of the nominal power should be very precise, as this value is used as the basis for the PNUTZ calculation.

The setting BEHAVIOUR specifies how nimble or sluggish the analogue output reacts. The value can be set between 1 (very fast) and 10 (very slow). By default, the value is set to 3 (nimble).

Target value



Setting TARGET VALUE between -30000W & +30000W, set the desired value here to which the system is to be constantly regulated. To avoid drawing energy from the mains, a negative value should be set here. The standard setting -20W is very suitable here.

ATTENTION! If there is a battery storage in the system, the target value must be set to at least -200W to avoid charging the heating element from the battery.

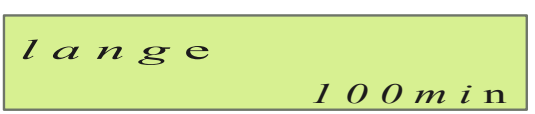
Power controller

Select whether a 1-phase or 3-phase power controller is controlled. The setting increases the accuracy of the analogue curve, but has no influence on the control behaviour of the power controller.

Forced engagement

Here you can set the timed forced release for the analogue output in the event of insufficient surplus energy in order to ensure hot water preparation without an external source.

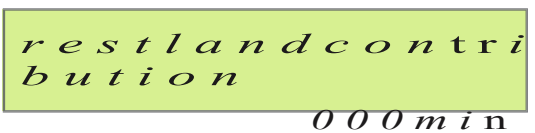
Enter the switch-on time for the daily forced release.



The daily duty cycle of the forced release.

Specifies how high the power controller should be controlled during forced release. In most cases, a level of 100% is recommended.

MODE indicates whether the time already run in automatic mode should be deducted or not (A=Automatic time is deducted, M=Manual time is not deducted).



The remaining time of the analogue output during forced release is displayed here.

Possible control behaviour - Relay 1 - 4

```
r 1 W A E R M E P U M P E Z
W = E I N P N = E I N
```

Standard control behaviour (parameterisable to all relays)
Consumer| Heat pump | Load shedding

Special control behaviour
Analogue relay (R1) | heating rod 2 (R2 & R3) | 1ph/3ph (R4)

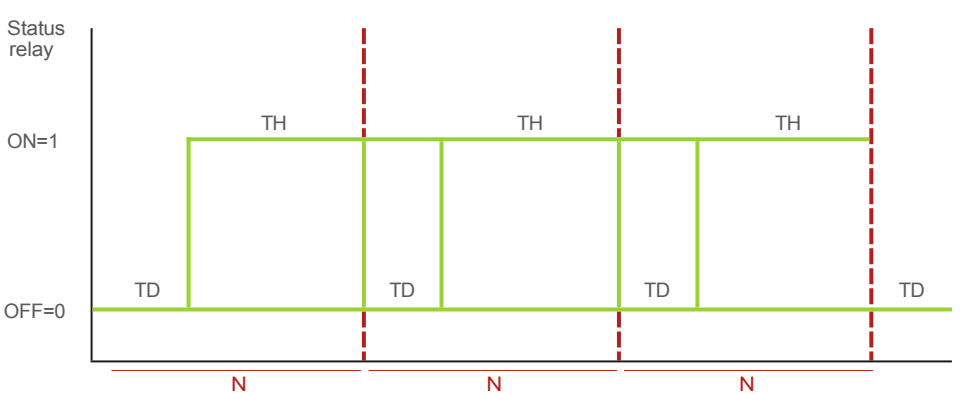
Settings Standard control behaviour

Regulation to target value - ZW
On: The target value set at the analogue output is taken into account.
Off: The switch-on threshold is calculated from target value 0.

Regulation with Pnutz - PN
Decides whether the relay is prioritised over the analogue output or not.
On: The relay is prioritised over the analogue output.
Off: The analogue output is prioritised over the relay.

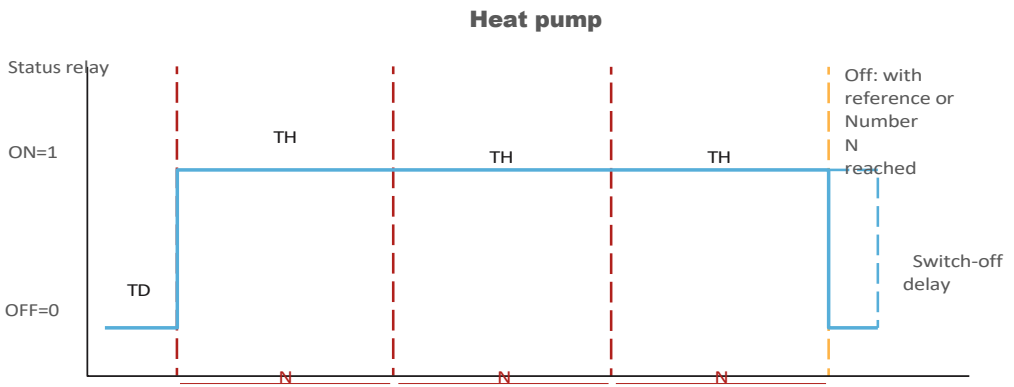
Consumer
Under the control behaviour consumer, the relay is activated as soon as the set power P for the selected on-delay TD was surplus and switches off again after TH has expired. The test procedure of TD starts again.

Consumer



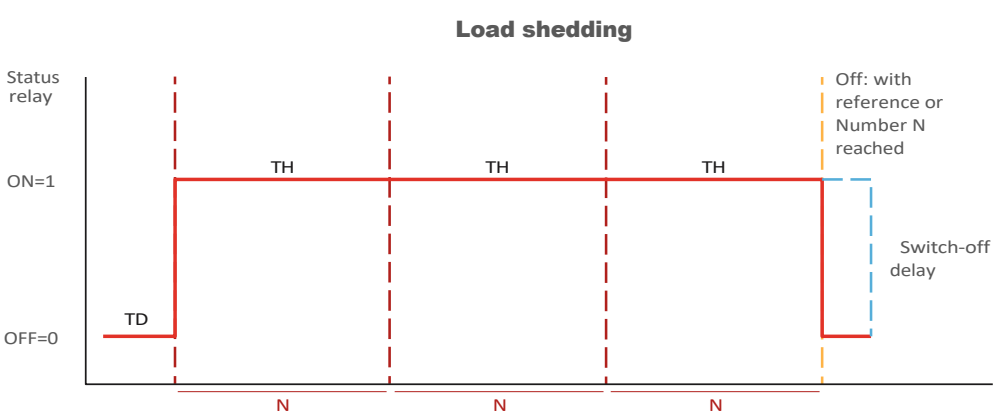
Heat pump

Under the control behaviour heat pump, the relay is activated as soon as the set power P for the selected switch-on delay TD was surplus. If there is still enough surplus after the hold time TH has elapsed, the system does not switch off but starts the next cycle.



Load shedding

Under the control behaviour load shedding, the relay is activated as soon as the set power P for the selected switch-on delay TD has been drawn from the mains. If more energy than the set threshold value is still drawn after the holding time TH has expired, the relay remains active. Only when the mains draw is below the set threshold is the relay switched off after the switch-off delay has expired.



SETTINGS - RELAY 1 - 4

Relay 1 - 4

```
R 1 N = 0 0 0 T D = 0 0 M P
= 0 0 0 0 W T H = 0 0 0 M
```

Switch-on cycles per day - N
"Switch-on cycles per day" is the value of how often a relay is to be activated per day. This can be set between 0 and 999. 0 means that the relay is deactivated and is therefore not taken into account. If the relay is to be activated as often as possible, 999 can be selected.

Rated power in watts - P
"Nominal power in watts" is the power value of the consumer connected to the relay, adjustable from 1 to 9999 watts. The selected value is used as the switch-on threshold.

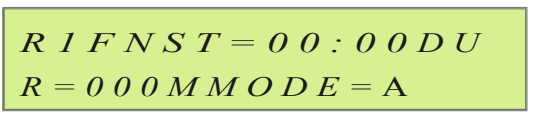
Switch-on delay in min - TD
"Switch-on delay in min" is the delay time how long the set power must be surplus under P to activate the relay. Adjustable between 0 and 99 minutes.

Holding period in minutes - TH
"Holding time in minutes" is the minimum time the relay remains activated after the switch-on condition is fulfilled, adjustable between 1 and 999 minutes. If, for example, a TH of 5min is set and the surplus collapses after 3 minutes (switch-on condition no longer fulfilled), the relay remains active for another two minutes.
Attention! To activate the relay, at least "1" must be entered here. become.

Switch-off delay (only for control behaviour heat pump and load shedding) Relay switches off after the set time (0 to 999s) has elapsed and the set switch-off threshold has been exceeded.

Switch-off threshold (only for control behaviour heat pump and load shedding)
The switch-off threshold can be set between -99999W and +99999W and indicates from which value the relay should deactivate again. By default, the relay switches off as soon as the value rises above 0. To keep the relay active, a value of +500W can be set, for example (+500W = supply; -500W = delivery).

Forced release relay



R1 designates relay 1.

Start time - ST
Enter the switch-on time for the daily forced release.

Duration in minutes - DUR
The daily duty cycle of the forced release.

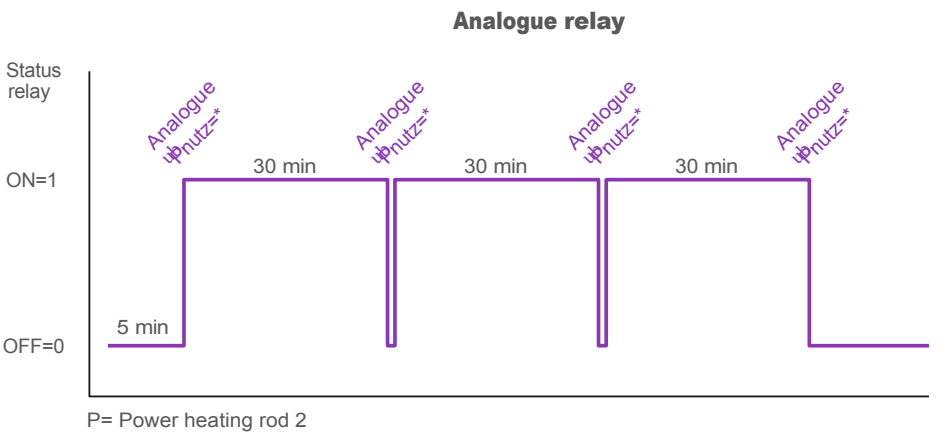
MODE
"MODE" indicates whether the time previously run in automatic mode is to be deducted or not (A=Automatic; time is deducted, M=Manual; time is not deducted).

Display of the running times

The remaining running time and the already run running time of relay 1 for the forced release are displayed here.

R1 - Analogue relay

If the Analogue relay control behaviour is selected, the relay switches as soon as the analogue monitoring is activated. This means whenever the heating element at the analogue output is no longer consuming power (e.g. thermostat switched off). In this way, several heating rods can be operated continuously one after the other by switching the contactor at the output of the power controller (e.g. boiler-buffer switchover). Only the setting P is required for the relay; the nominal power of the second heating element must be stored here.



Analogue relay settings

```
r1 analog relais
ZW=EIN PN=EIN
```

Select the control behaviour of the analogue relay.

NOTE! Heating rod 1 is parameterised at the analogue output.

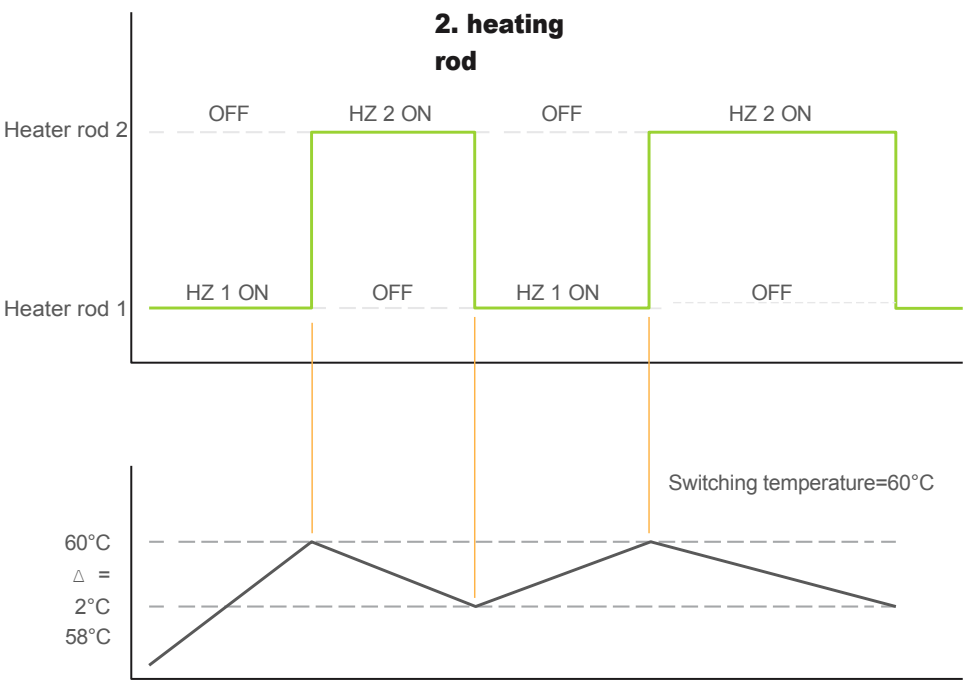
```
R1N=000 TD=00 MP
=0600 WTH=000 M
```

Set the nominal power of the second heating rod under P.

Complete instructions Analogue relay function at www.smartfox.at/downloads

R2 or R3 - 2nd heating element - Temperature changeover via PT1000

The "2nd heating element" function is only active if a temperature sensor is connected to the PT1000 input. The relay switches on when the set changeover temperature of the sensor is reached and switches off again when the temperature falls below this by 2°C. This offers the possibility of switching between two heating rods at the analogue output by means of a temperature sensor. This offers the possibility of switching between 2 heating elements at the analogue output by means of the temperature sensor (e.g. boiler-buffer switchover, heating element above - heating element below). Only the setting P is required for the relay; the nominal output of the second heating rod must be stored here and the changeover temperature must be defined.



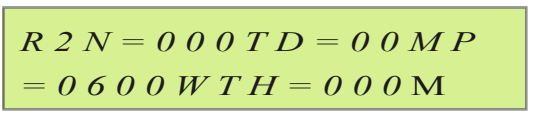
Temperature sensor PT1000

Settings heating rod2

```
r2heizstab2ZW
=EINPN=EIN
```

SETTINGS - RELAY SPECIAL FUNCTIONS

Select control behaviour of heating rod2.



Set the nominal power of the second heating rod under P.

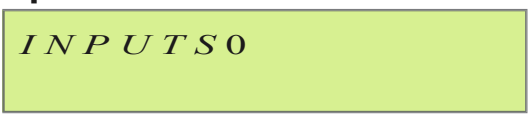
Set the desired changeover temperature.

ATTENTION!
The connection of a PT1000 temperature sensor is required for the function.

Complete instructions "2nd heating rod function" at www.smartfox.at/downloads

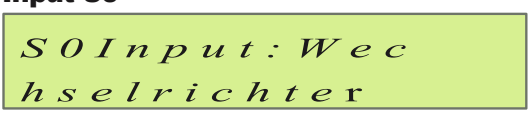
SETTINGS - INPUTS & CONSUMPTION CONTROLLERS

Inputs



Settings menu of the integrated S0 interface.

Input S0



Select the desired application of the S0 input here.
Complete instructions S0 input at www.smartfox.at/downloads

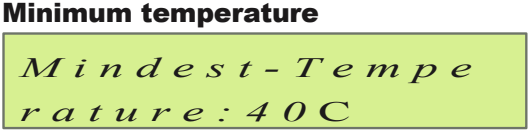
Pulses per unit

Enter the pulse rate of the connected S0 meter here.

Temperature sensor ON / OFF

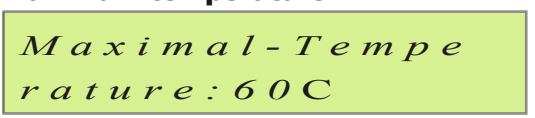
The function of a PT1000 temperature sensor can be activated here.

Minimum temperature



The minimum temperature that is always to be maintained via the analogue output can be set here.

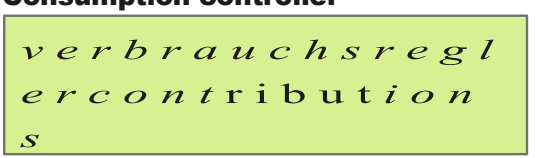
Maximum temperature



The maximum temperature to be reached by excess energy can be set here.

ATTENTION!
Minimum temperature and maximum temperature function
only possible with connected PT1000 temperature sensor.

Consumption controller



A consumption controller can be set here instead of an analogue output.
e.g. Ohmpilot RTU or TCP depending on the interface (RS485 = RTU, LAN or WLAN = TCP).

Complete instructions Ohmpilot at www.smartfox.at/downloads

SETTINGS - INVERTER, HEAT PUMP & BATTERY

Inverter setting

```
AC-CONV.=FRONIU
S192.168.001.180
```

Select the inverter to be read here.
The complete instructions for the various inverters (Fronius, SolarEdge, Kostal, etc.) can be found at www.smartfox.at/downloads.

Enter the statically assigned IP address of the inverter here. The static IP address can be omitted if the "IP Scan" setting is activated. Using the IP scan, it can take up to 15 minutes until the IP address is displayed.

NOTE!
After licence activation up to 5 inverters possible!

Complete instructions for licence activation at www.smartfox.at/downloads

IP address inverter

```
IPSCAN=
any
```

If the IP scan is activated, the entry of the static IP address can be omitted. This setting is only possible for the 1st inverter.

Heat pump

```
waermepumpe:id
m192.168.001.10
2
```

After licence activation, enter the IP address of the WP to be controlled.

Battery

```
BATTERIA:FRONIU
S192.168.001.024
```

After activating the licence, enter the IP address of the battery storage unit to be read.

Complete Licence Activation and Battery Storage Instructions at www.smartfox.at/downloads

Select the manufacturer/factory of the charging station.

NOTE!
Car Charger licence (art. no. 0791732486568) required.

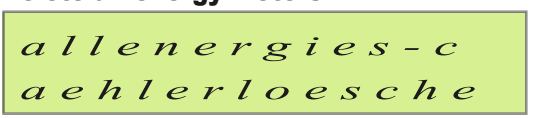
Complete Car Charger instructions at www.smartfox.at/downloads

MAINTENANCE MENU

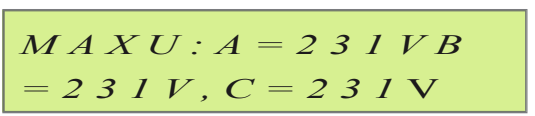
Maintenance password

To enter the maintenance menu, enter 9876.

Delete all energy meters

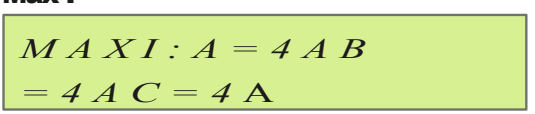


Max U



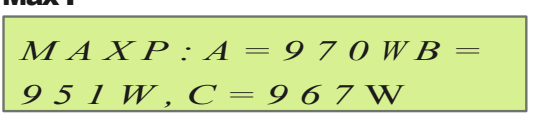
Maximum voltage. Maximum values measured on the unit since commissioning.

Max I



Maximum current. Maximum values measured on the unit since commissioning.

Max P



Maximum power: Maximum values measured on the unit since commissioning.

Operating hours

Operating hours measured on the unit since commissioning.

LOCAL NETWORK ACCESS

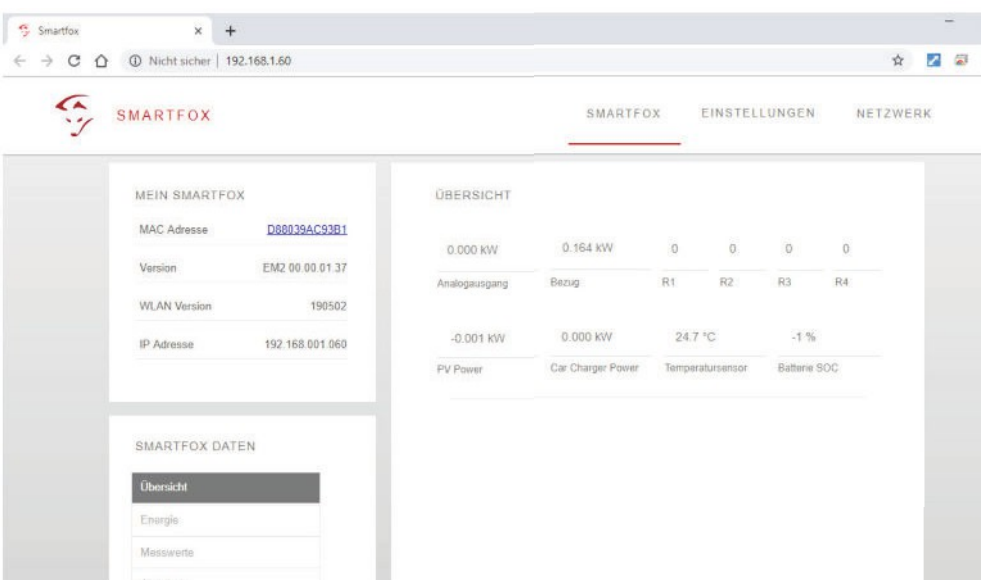
All settings and switching operations can be carried out via local network access.

1. Read the current IP address in the MAIN MENU, e.g. 192.168.1.52.
2. Computer, laptop, smartphone... connect to the same network
3. Enter the current IP address of the SMARTFOX in the web browser.
4. The local web page of the SMARTFOX opens.

NOTE!
As an alternative to the IP address, the command http://dafi-smartfox can also be entered to open the local website

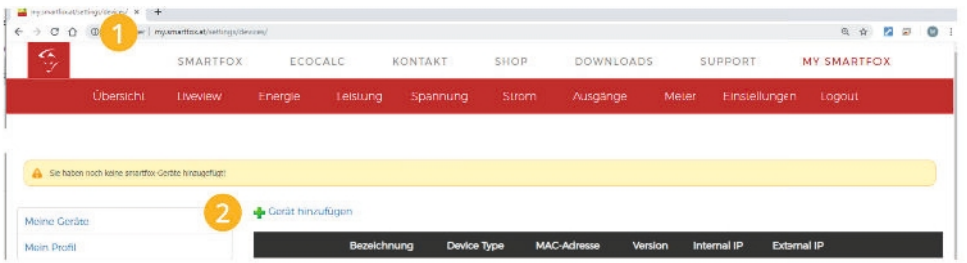
If no network is available, the local website can also be reached via the WIFI access point.

1. In the MAIN MENU, set WIFI AP to "ON
2. SMARTFOX sends out the WLAN "Smartfox_AP".
3. With a computer, laptop, smartphone...connect to the WLAN.
4. Open the web browser and enter the IP address 192.168.250.181.
5. The local web page of the SMARTFOX opens.

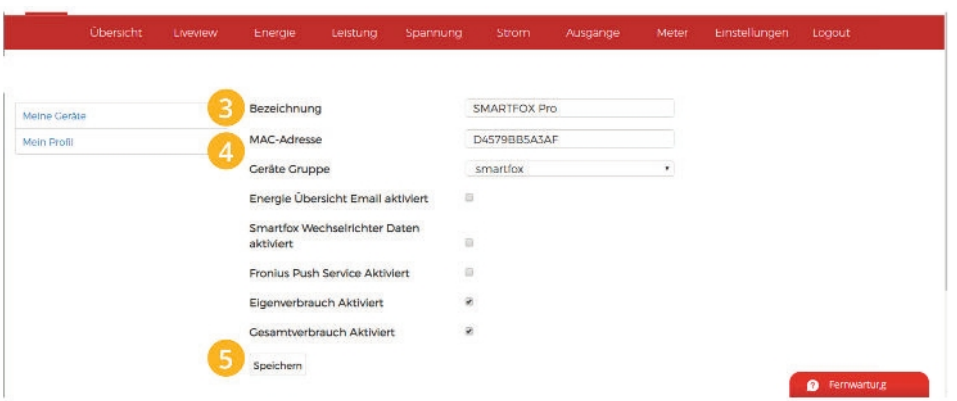


CONNECTION WITH MY.SMARTFOX.AT

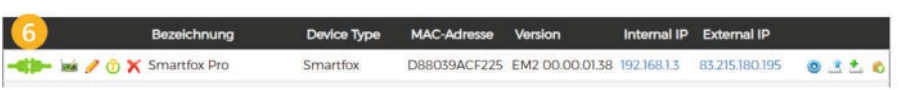
1. Register at my.smartfox.at.
2. Click on "Add device".



3. Assign a name for the unit.
4. Enter the MAC address of the SMARTFOX. (See display main menu).
5. Click on "Save".



6. If the plug symbol is displayed in green, the unit is connected to the portal. You can now make all settings via the web portal and use all monitoring functions.



MISSING SEARCH

1. The measurement does not work properly.
Check the mounting of the current transformers (in the direction of the arrow).

2. The control of the heating rod does not work.
Check whether the heating element is connected according to the installation instructions. Check the safety thermostat on the heating element. This must be actuated if necessary. Check the settings of the heating element for completeness. Check the "ANALOGOUT" setting, this must be set to "AUTOMATIC". If the heating element still does not work, there may be a defect in one of the installed components.

3. My SMARTFOX is in operation but does not show any characters on the display.
Carry out a firmware update.

4. I cannot find my SMARTFOX on the network.
Please check the network connection. Please check the network settings on the SMARTFOX (router IP/subnetmask).

5. The SD card on my SMARTFOX keeps switching off.
The memory card is full or no longer has a free root directory available. Insert a FAT32 formatted SD card (min. 4GB max. 8GB).

6. The update cannot be started.
Disconnect the power supply to your SMARTFOX device and press and hold the two right-hand buttons (<- , ->), then reactivate the power supply and release the two buttons again after approx. 10 seconds. The screen starts flashing and SMARTFOX starts the update.

More information at: http://smartfox.at/support.html

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support@smartfox.at