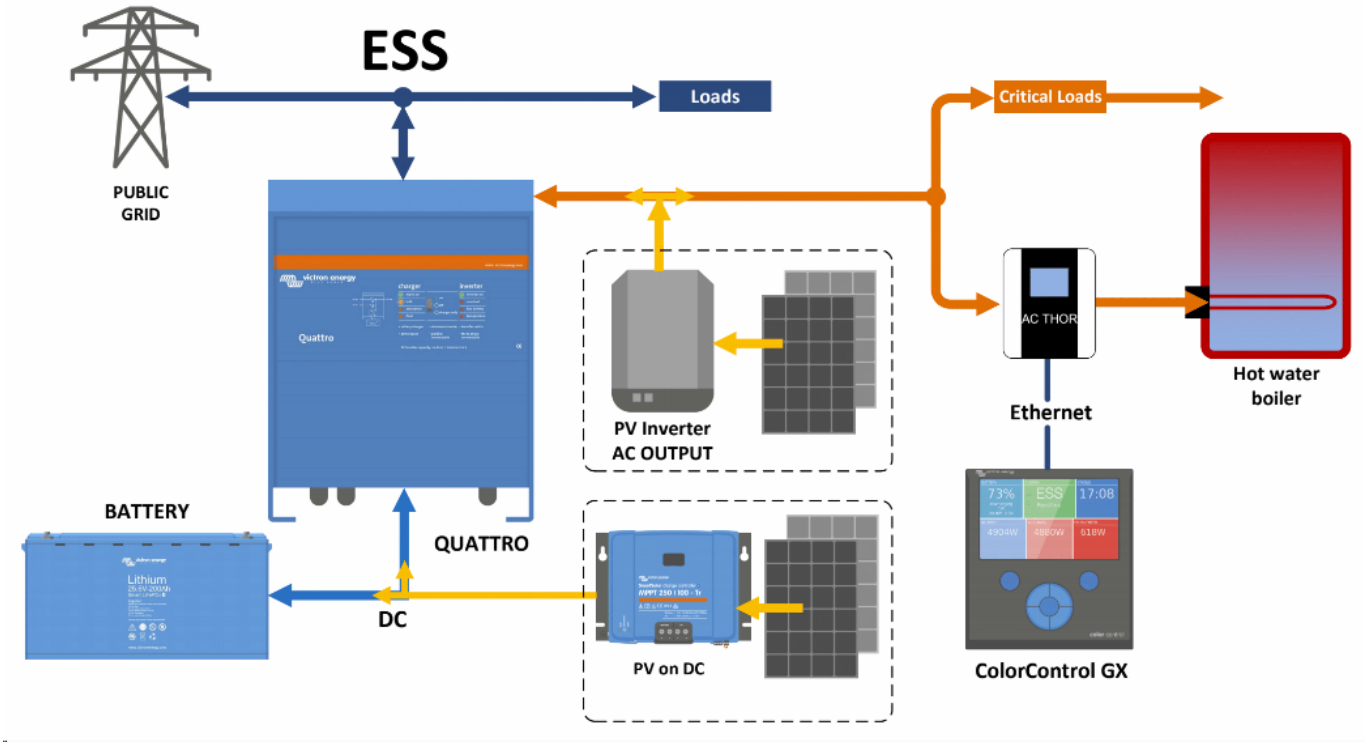
MyPv Ac-Thor and Victron Energy ESS

When the batteries are full, we still have PV power available, but our grid operator doesn't allow feeding, that power is lost. We could use that power and send it to a boiler or something similar. For this we are using a device from MyPv called AC-Thor.

The schematic for the ESS system looks like this (the meter from MyPv is not needed in this setup):



First setup:

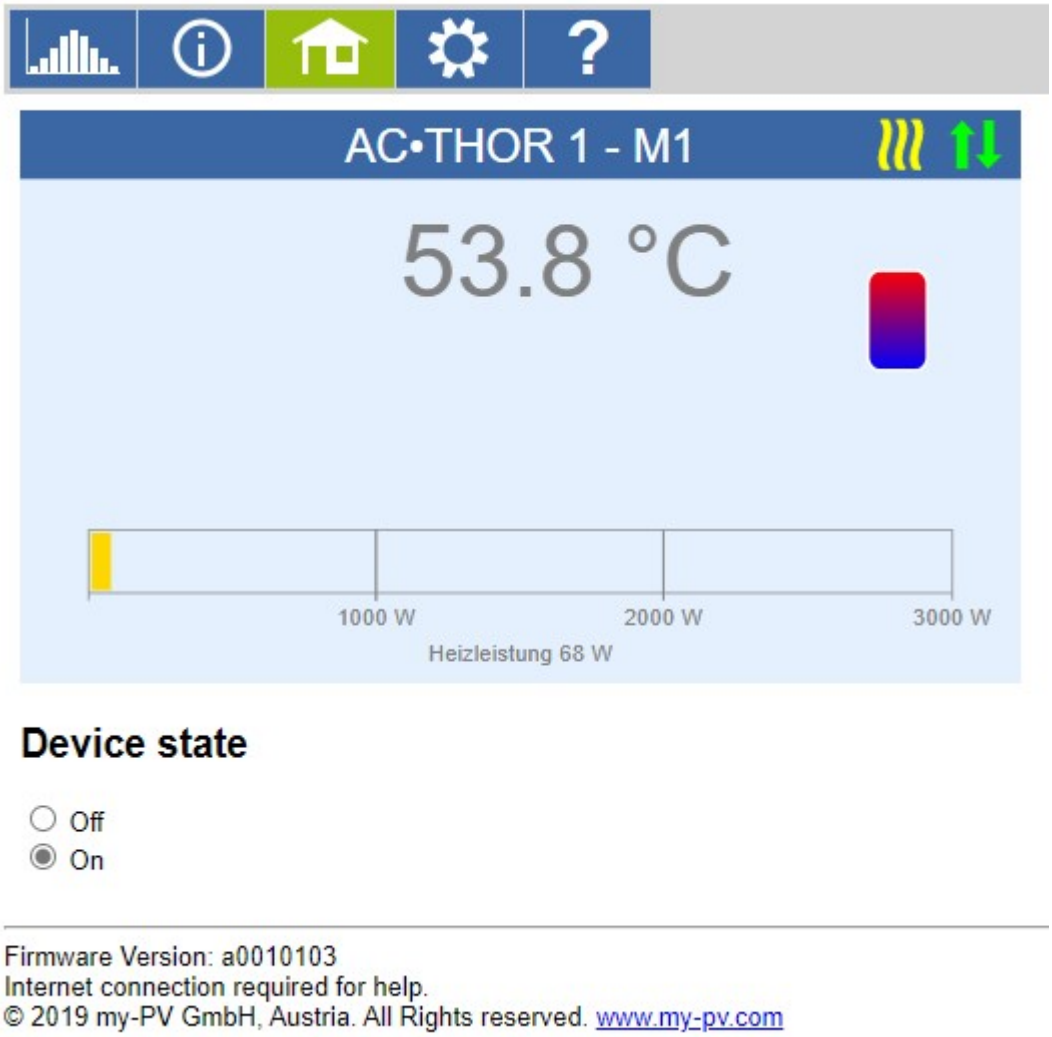
Ac-Thor device must be connected on the AC output of the Multi/Quattro.

Must be in the same LAN network as Color GX or Venus GX, with DHCP enable (default).

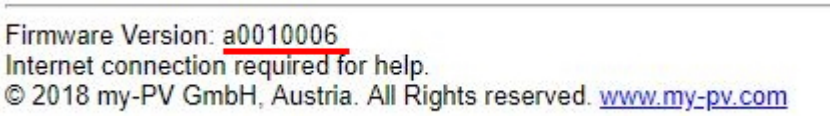
Using the device touch screen, select Information menu and go to the third screen to find the current IP address.

Open a browser, put that IP address into the address field and press enter

The webpage should look like this:



Please check the firmware version on AC-Thor device, must be at least a0010006.



Go to setting and select the “Mode”. For ESS select ”Hot water 3KW”, .

In order to have communication between the Color/Venus GX device and Ac-Thor, some parameters must be configured:

On Signal Source, select “Adjustable Modbus TCP(Sunspec etc)”.

Device ID must be 0.

Metter Register 820, Int16 and -feed in.

For Scale Register, don't select anything.

For Modbus Port, leave the default value (502).

On the IP address field, you have to put the VenusGX/CCGX IP address. If you don't know how to obtain it, please check here: https://www.victronenergy.com/live/venus-gx:start

On the Control target, recommended value is -50W.

Control type

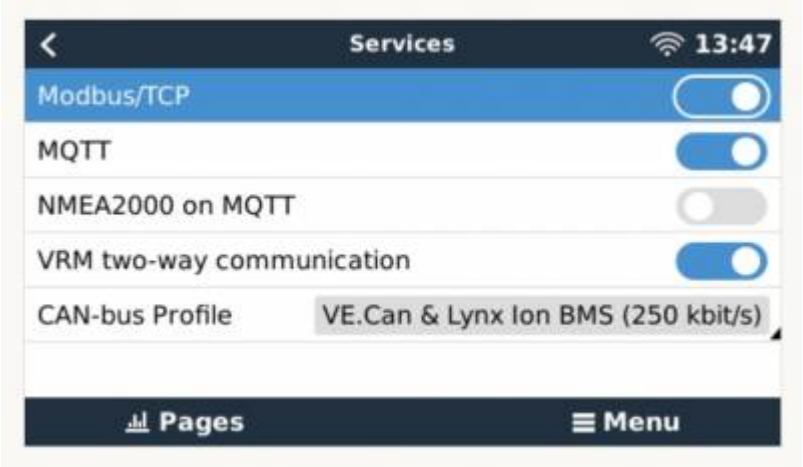
Signal source: ACTHOR Number >1: only "Slave" selectable	Adjustable Modbus TCP (Sunspec etc)
	Save

Control settings

Device ID:	0
Meter Register:	820 Int16 - feed in
Scale Register / Factor:	1001 none
Modbus Port:	502
IP address of the signal source:	10 . 10 . 11 . 155
Control status:	No Control
Power timeout:	10 Seconds
Control target: Negative value means feed-in. Only change this value if you are familiar with the control strategy - red Help for more details.	-50 W
Block Start-Hour:	0 Block Stop-Hour: 0
	Save

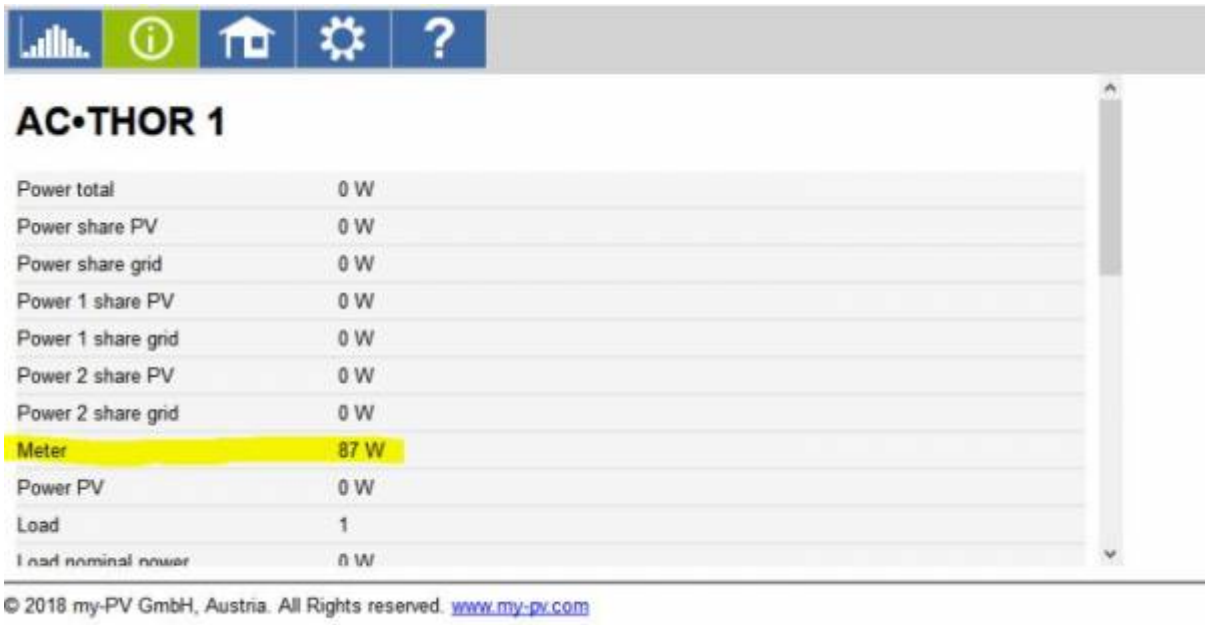
Press Save to store the parameters.

On the Venus/Color GX please be sure that Modbus TCP is enabled (Setting, Services, Modbus/TCP)



Also in Setting /ESS, Feed-in excess solar power must me enabled for system with PV panels connected using MPPT's and Fronius Zero Feed-in must be disabled for systems with PV panels connected using Fronius PV Inverters.

If everything is correctly configured, you should see in the information screen of the Ac-Thor, the grid consumption/feed displayed as Meter measured value, positive for consumption and negative for feed in:



AC-Thor will control the energy sent to the boiler so that the energy sent to the grid is approximately 50W.

To prevent boiler to over heat, please be sure the temperature sensor is connected to AC-Thor and installed inside the boiler. The temperature parameters can be configured in the settings menu:

Hotwater

Temperature:	max °C	Min °C
	60	50
Boost-Mode:	Off	On
Timeframe:	start hour	stop hour
	17	23
Weekday	Mon	Tue
	Save	

AC-THOR Technical specifications:

- mains voltage 230 V, 50 Hz
- outputs 0-3000 W infinitely variable + switching output 16 A
- mains connection Single-phase, earthing contact plug
- consumer connection Protective contact socket for resistive loads
- display Color Graphics, Touch Screen 2.83 “
- connection cable 2,8 m
- dimensions (W x H x D) 135 x 210 x 65 mm