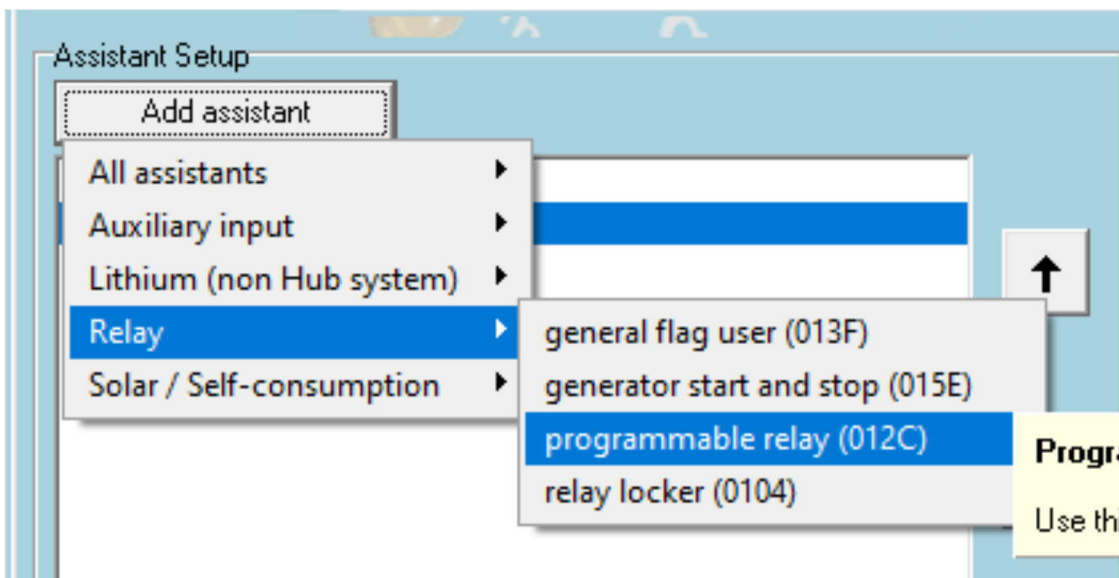


You will not have any entries here to start with, press add assistant to add the first relay driver...

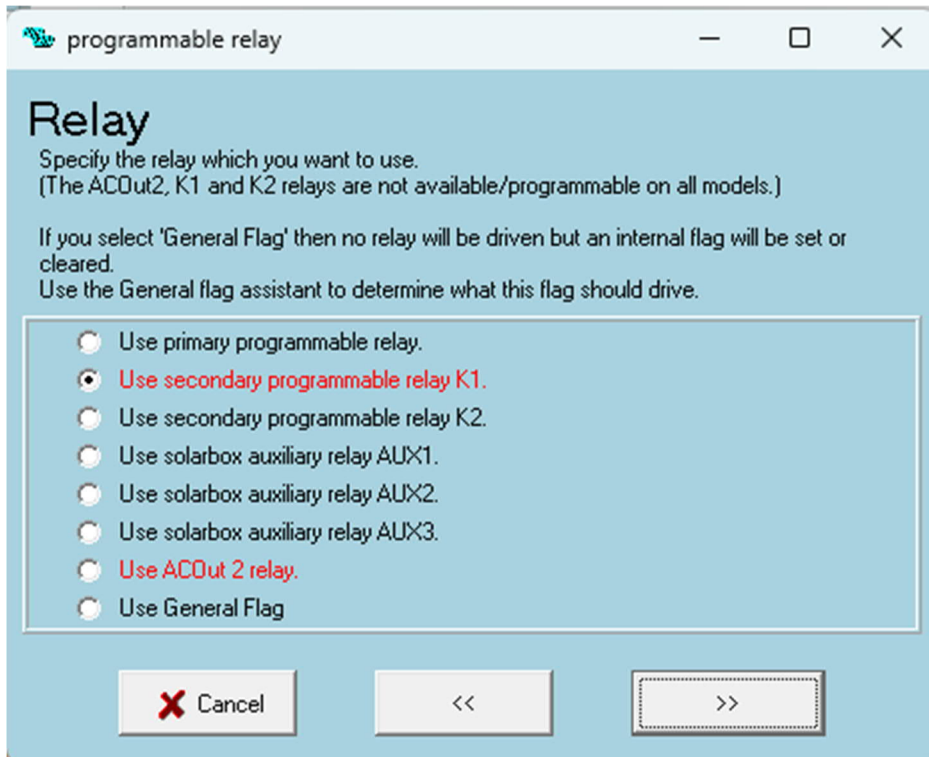


Add two more the same way so that your window looks like the one above.

You need 3 because we have both on and off conditions to deal with, the entries are processed top to bottom so the result last thing that makes a change is the state the relay will be in.

You are going to turn it on with unimportant conditions, that have a delay, and then turn it of if either of your specified conditions are not true.

Highlight the first programmable relay instance and click 'Start assistant' ...



The screenshot shows a window titled "programmable relay" with a light blue background. The main heading is "Relay". Below it, the text reads: "Specify the relay which you want to use. (The ACDout2, K1 and K2 relays are not available/programmable on all models.)" A sub-note says: "If you select 'General Flag' then no relay will be driven but an internal flag will be set or cleared. Use the General flag assistant to determine what this flag should drive." A list of radio button options is shown, with "Use secondary programmable relay K1." and "Use ACDout 2 relay." highlighted in red. At the bottom, there are three buttons: "Cancel" (with a red X), a left arrow "<<", and a right arrow ">>" which is highlighted with a dashed border.

programmable relay

Relay

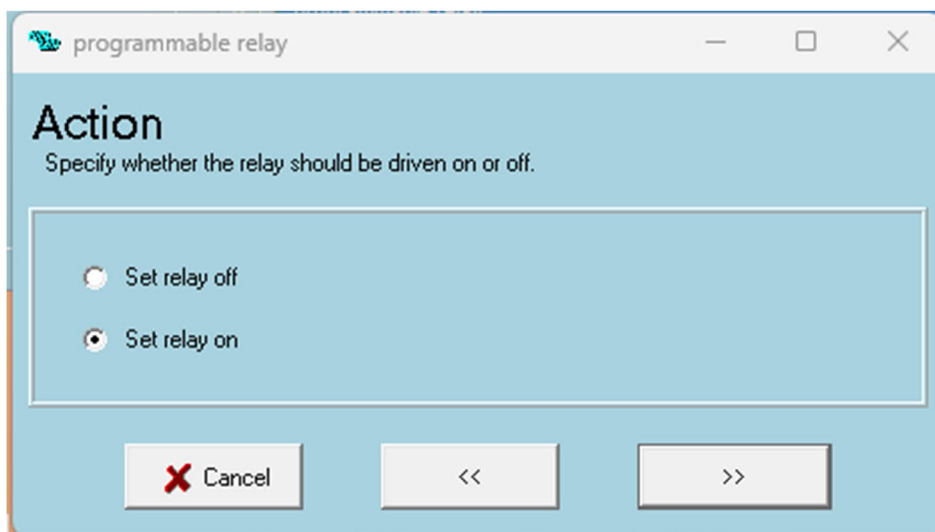
Specify the relay which you want to use.
(The ACDout2, K1 and K2 relays are not available/programmable on all models.)

If you select 'General Flag' then no relay will be driven but an internal flag will be set or cleared.
Use the General flag assistant to determine what this flag should drive.

- Use primary programmable relay.
- Use secondary programmable relay K1.
- Use secondary programmable relay K2.
- Use solarbox auxiliary relay AUX1.
- Use solarbox auxiliary relay AUX2.
- Use solarbox auxiliary relay AUX3.
- Use ACDout 2 relay.
- Use General Flag

Cancel << >>

Select the relay you want and then >> (Forward)



The screenshot shows a window titled "programmable relay" with a light blue background. The main heading is "Action". Below it, the text reads: "Specify whether the relay should be driven on or off." A list of radio button options is shown, with "Set relay on" highlighted in red. At the bottom, there are three buttons: "Cancel" (with a red X), a left arrow "<<", and a right arrow ">>" which is highlighted with a dashed border.

programmable relay

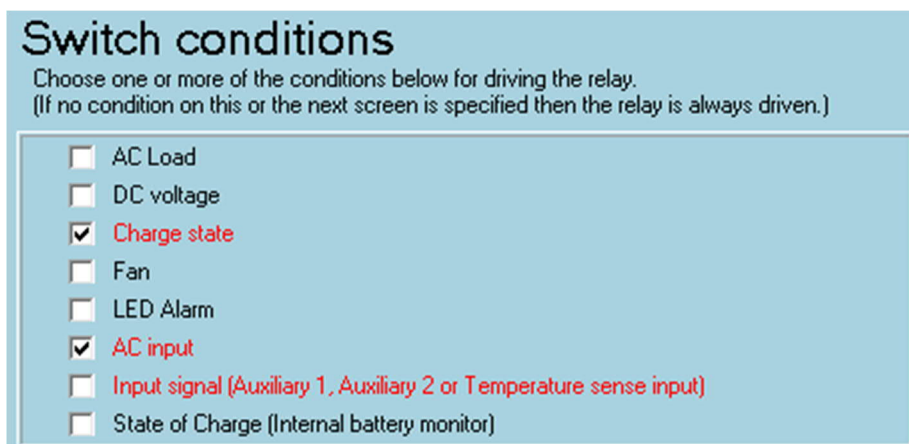
Action

Specify whether the relay should be driven on or off.

- Set relay off
- Set relay on

Cancel << >>

Set the action you want and click >>



The screenshot shows a window titled "programmable relay" with a light blue background. The main heading is "Switch conditions". Below it, the text reads: "Choose one or more of the conditions below for driving the relay. (If no condition on this or the next screen is specified then the relay is always driven.)" A list of checkbox options is shown, with "Charge state" and "AC input" highlighted in red. At the bottom, there are three buttons: "Cancel" (with a red X), a left arrow "<<", and a right arrow ">>" which is highlighted with a dashed border.

programmable relay

Switch conditions

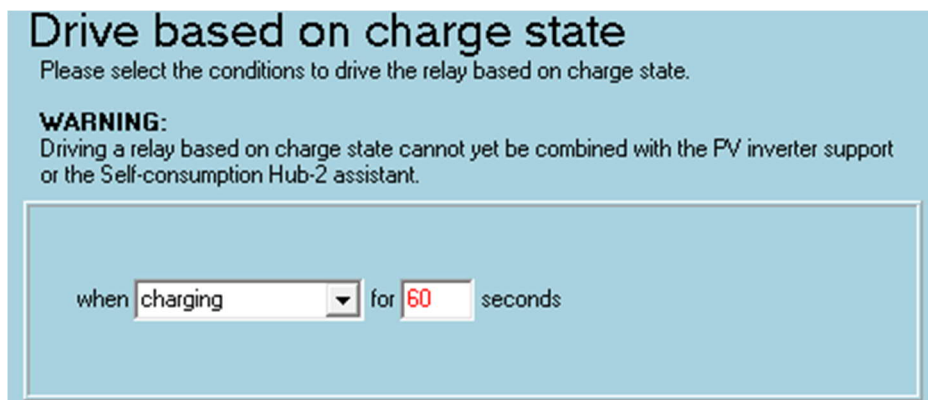
Choose one or more of the conditions below for driving the relay.
(If no condition on this or the next screen is specified then the relay is always driven.)

- AC Load
- DC voltage
- Charge state
- Fan
- LED Alarm
- AC input
- Input signal (Auxiliary 1, Auxiliary 2 or Temperature sense input)
- State of Charge (Internal battery monitor)

Cancel << >>

We just want to set the relay on here so don't need any conditions but a delay is advisable so we will set some to get one.

The next screen asks about extra conditions, we don't need those either >>

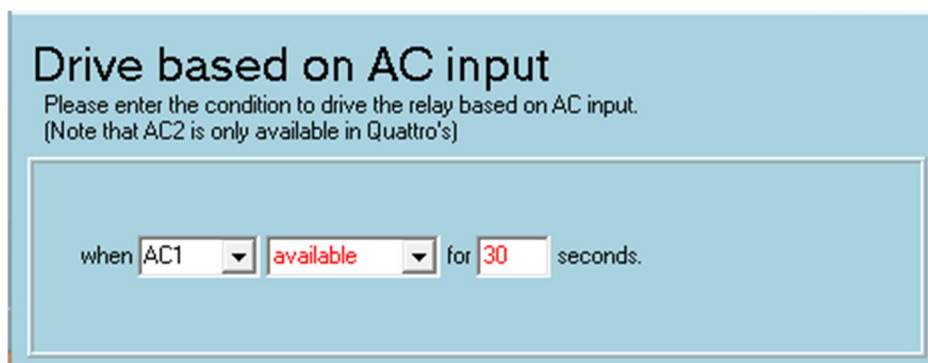


Drive based on charge state
Please select the conditions to drive the relay based on charge state.

WARNING:
Driving a relay based on charge state cannot yet be combined with the PV inverter support or the Self-consumption Hub-2 assistant.

when for seconds

Just using this to get a delay, if either this or the next is true the relay will be on >>



Drive based on AC input
Please enter the condition to drive the relay based on AC input.
(Note that AC2 is only available in Quattro's)

when for seconds.

>> and you are done with instance 1

You have told the unit to turn the relay 'On', after a delay if you are charging OR AC1 is available.

I am aware you want both to be true, as the condition, but as one condition being false and turning off the relay, later, is logically the same, we are good.

Now we need to specify when this should be overridden, and the relay turned off, that is the next two instances.

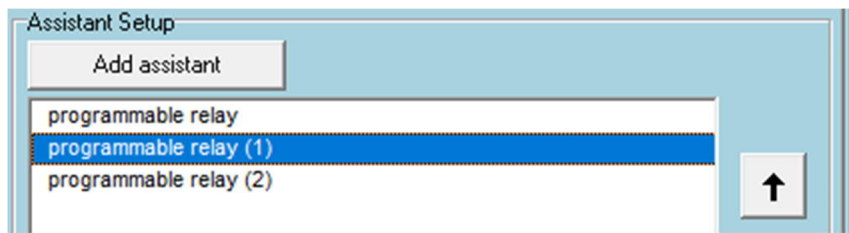
Programmable relay (1) and Programmable relay (2)

NB. The relevant documentation <https://www.victronenergy.com/live/assistants:start> isn't clear at all IMHO and it's a question that gets asked quite a bit...

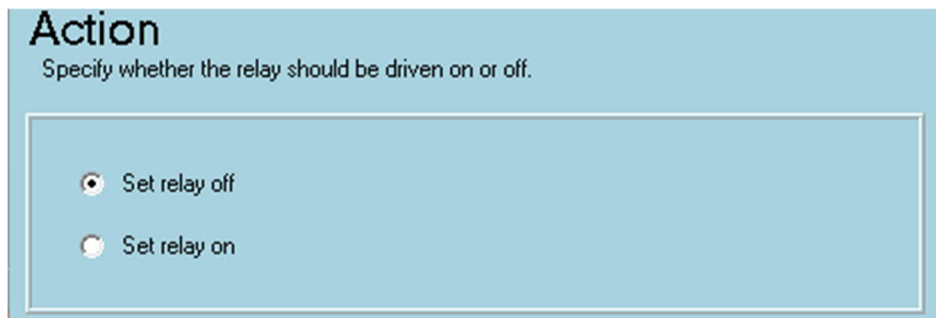
I think the multiple criteria have 'OR' relationships, as in if either is true the action is taken, it doesn't matter to you whether that is correct or not, as we don't need an AND condition anyway.

I have checked on my system and I am positive that the last action taken on any given relay is the one that is applied. In theory we could set two conditions here in the one instance but as I am not 100% positive I am going to suggest that we define them separately.

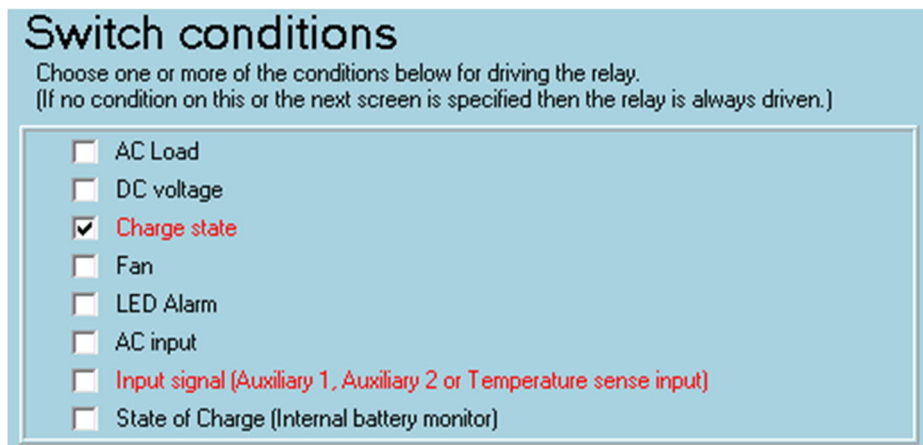
Highlight the second instance and press Start assistant just like before.



The first screen is the same for all three, select your relay as before and click >>



Select 'OFF' as the action for this and the next instance too >>



Select Charge state here, when you do instance 3 it will be AC input. >>

Ignore the additional drive conditions as before >>

Instance 2

Drive based on charge state

Please select the conditions to drive the relay based on charge state.

WARNING:
Driving a relay based on charge state cannot yet be combined with the PV inverter support or the Self-consumption Hub-2 assistant.

when for seconds

For instance 3 (when you do it next.)

Drive based on AC input

Please enter the condition to drive the relay based on AC input.
(Note that AC2 is only available in Quattro's)

when for seconds.

Select not charging (2) / not available (3), whatever delay you want >>

You should be done... we can check.

Select all three instances and click Summary, It should like this:-

The screenshot shows the 'Assistant Configuration' window with three instances of 'programmable relay' selected. The 'Information' dialog box provides details for each instance:

- programmable relay (size:202)**
 - *) Use secondary programmable relay K1.
 - *) Set relay on
 - *) when charging for 60 seconds
 - *) when AC1 available for 30 seconds.
- programmable relay (1) (size:52)**
 - *) Use secondary programmable relay K1.
 - *) Set relay off
 - *) when not charging for 30 seconds
- programmable relay (2) (size:38)**
 - *) Use secondary programmable relay K1.
 - *) Set relay off
 - *) when AC1 not available for 30 seconds.

Total size of all assistants including the required (hidden) system assistants is: 362

Buttons: Start assistant, Save assistant, Delete assistant, Summary, Load assistant, OK