

Solis Standard Operating Procedure

AC Coupling PV inverter & Victron Setup Guide

Overview

The SOP document shows a step-by-step guide to set up the AC PV inverter and Victron devices to AC Coupling. The note applies to the single phase and three phase set up

SOLIS & Victron AC Coupling Set up

Overview

1. Solis Inverter set up
2. Victron Settings
3. GX Set up

Method

1. SOLIS Inverter Set Up

See Below images as reference on AC PV Inverter.

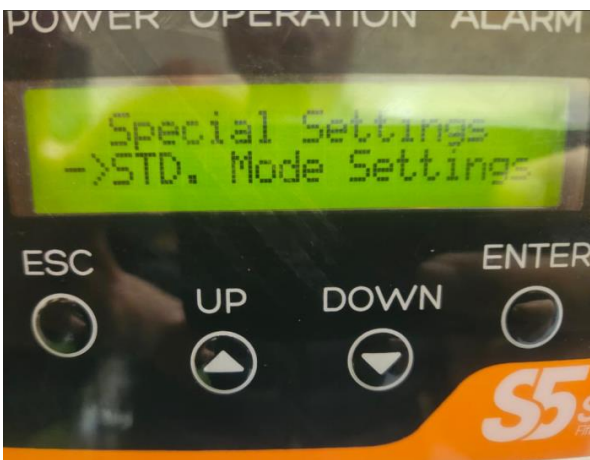
1.1. Select Standard



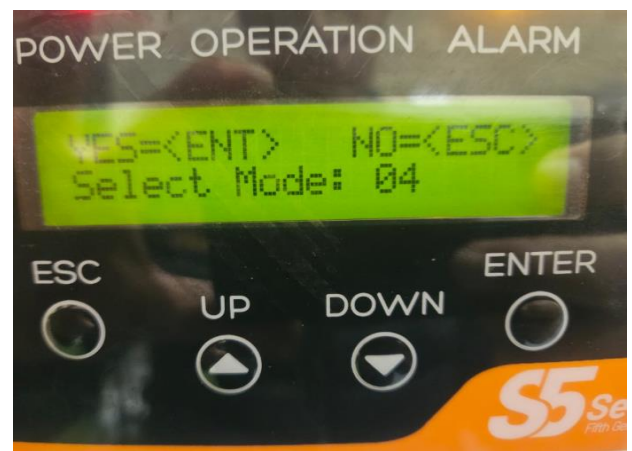
1.2 Grid Code: Gen 50



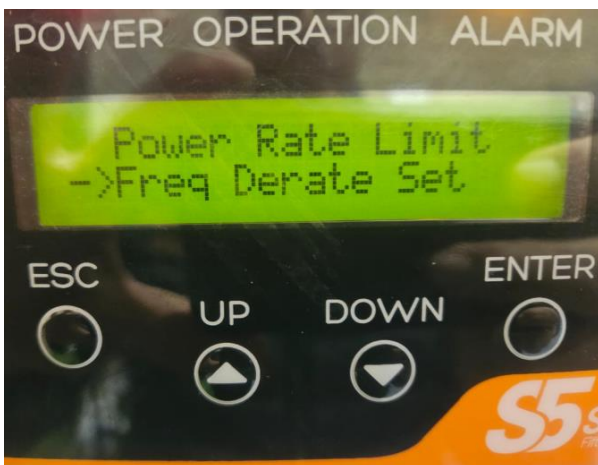
1.3 STD Mode Settings



1.4 Mode 4



1.5 Freq Derate Set

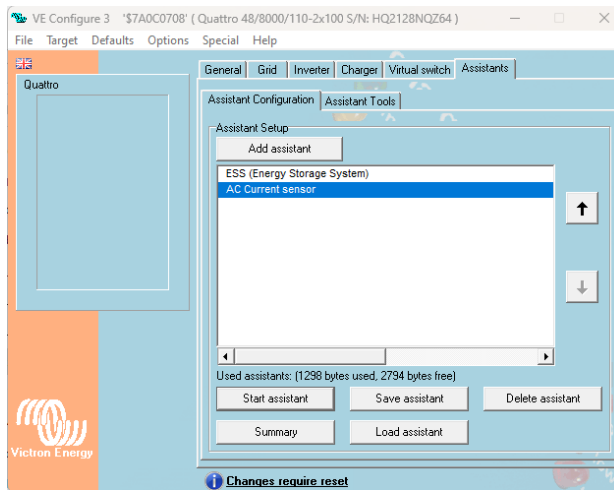


1.6 Freq Start and Stop values.



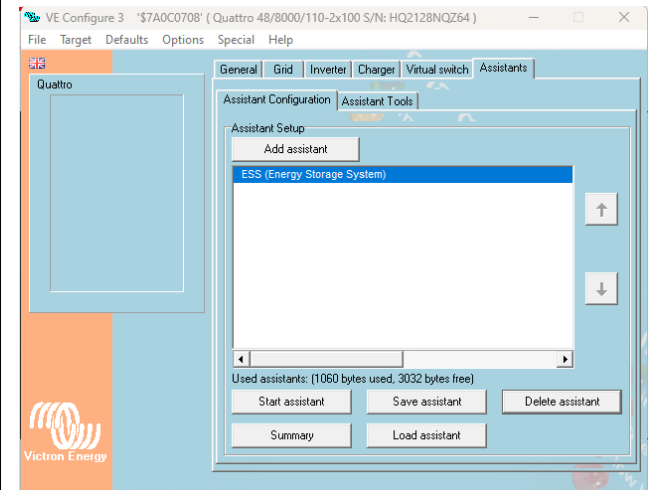
2. Victron Inverter Set Up

With AC Current sensor



Note the order in which the assistant are in is very important, when using ESS it should always be on top

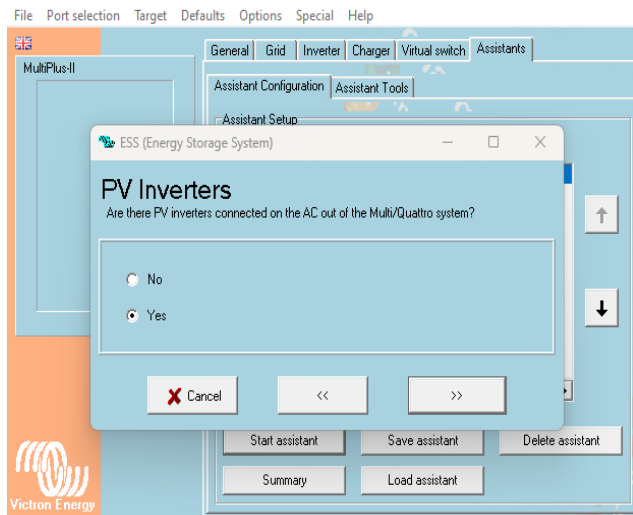
With ET Meter



2.1 ESS Settings

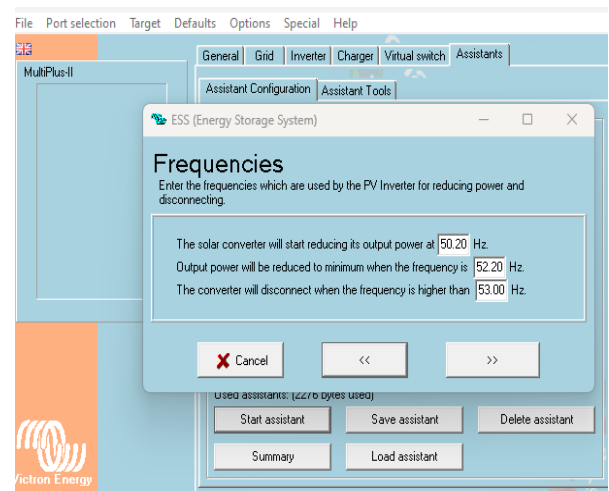
Click on Add assistant and select ESS

Select the first settings related to the PV inverter set up and select YES

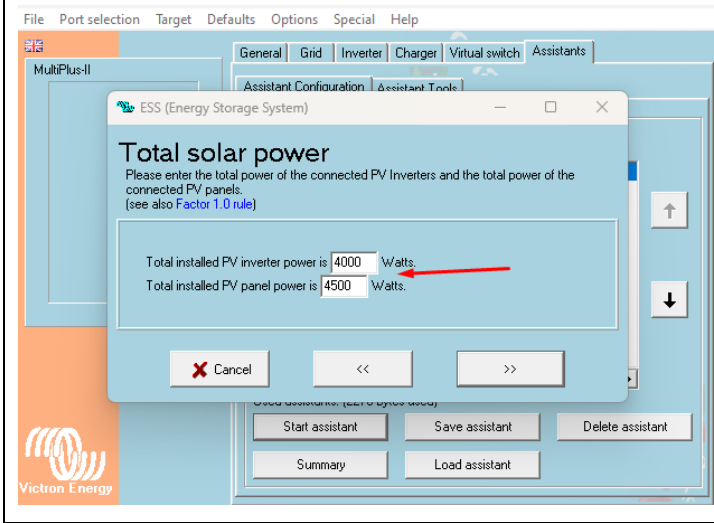


Go to the next page and input the Frequencies. Recommended to leave it default at

- Start 50.20 Hz
- Reduce/Stop 52.70 Hz
- Disconnect 53.00 Hz



Enter the installed PV inverter size and installed Solar PV power.



You would need to measure the PV production and to achieve that you need Carlo Gavazi meter.

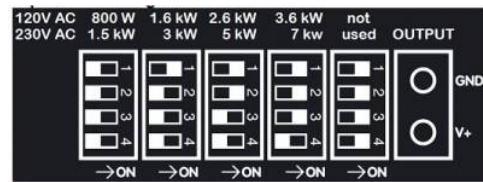
There are 2 ways of getting this information

1. AC Current sensor/s
2. Carlo Gavazi meter
 - ET112- Single Phase 100A
 - ET340- Three phase 63A
 - EM 24-CT- Three Phase CT

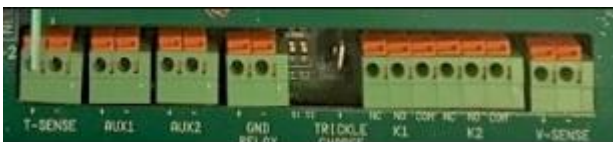
1. AC Current Sensor Set Up

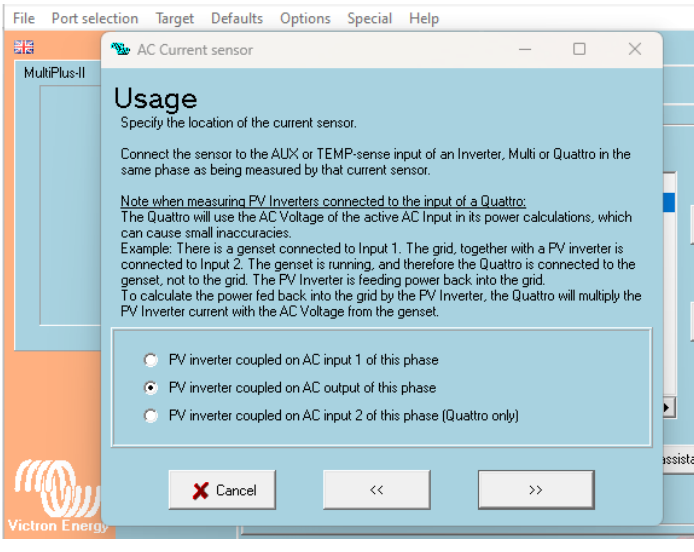
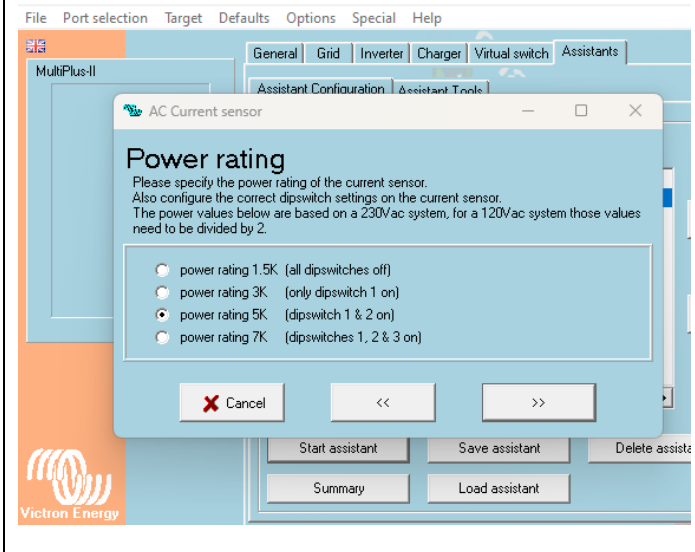
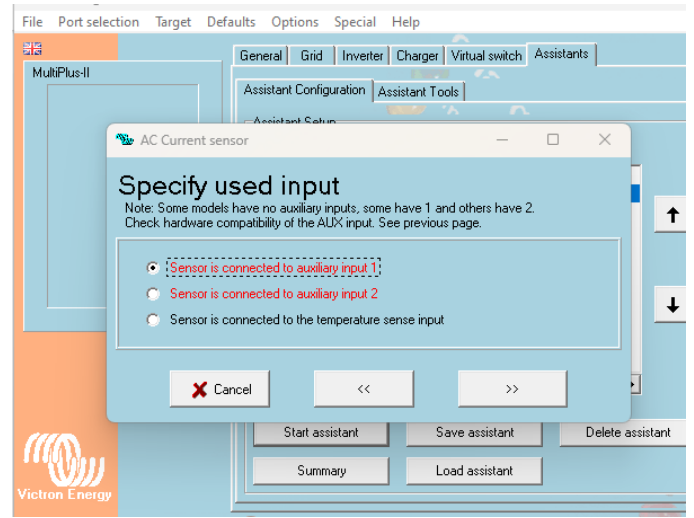
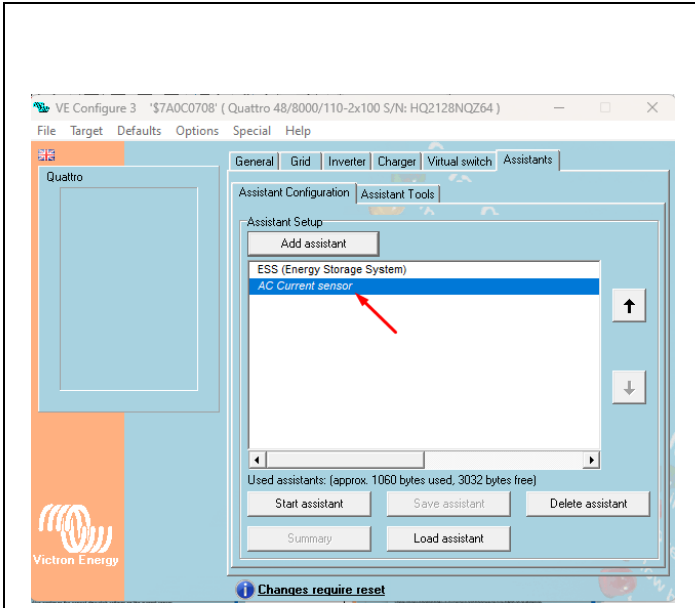
Installation

1. Pull one of the AC wires of the PV inverter through the AC Current sensor.
2. Connect the sensor to the AUX or TEMP-sense input of an Inverter, Multi or Quattro in the same phase as being measured by that current sensor.
3. Configure the power range with the dipswitches. Select the power equal or higher than the maximum expected power. For example, with a 4kW PV installation, the correct dipswitch setting is 5kW.
4. Multi-phase installations: add one AC current sensor for each phase of the PV inverter. Wire it to the Multi in the same phase.



AC Current sensor input terminals





2. AC Coupling set up for production values, position and control on GX device with ET Meter

1Ph ET112 meter



Energy Meter ET112 - 1 phase - max 100A

3Ph ET340 meter

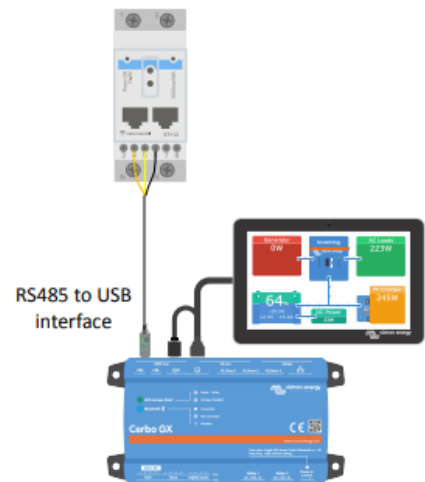


Energy Meter ET340 - 3 phase - max 65A/phase

This meter will then communicate directly to the Victron GX device with a USB to RS485 cable.



RS485 to USB interface 1.8m



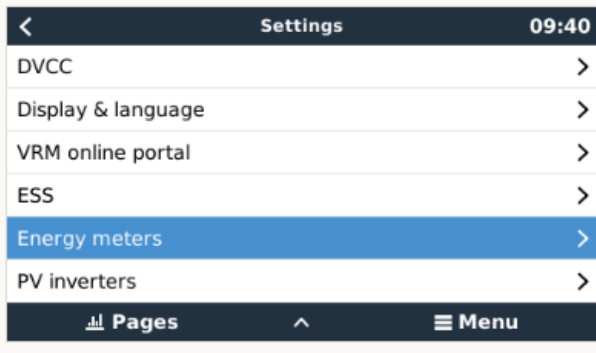
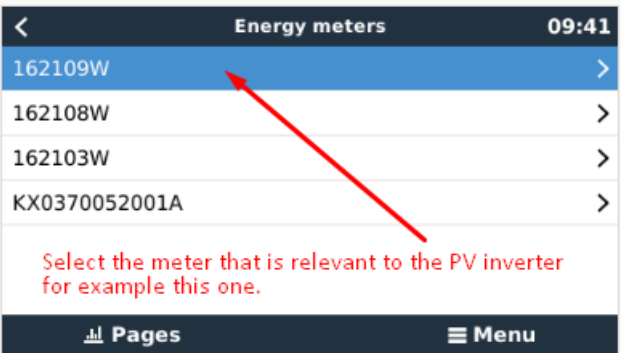
<p>The RS 485 pin outs are as follow on the ET112meter.</p> <p>#Orange is the positive that goes to Pin 4 of the meter</p> <p>#Yellow is the negative that goes to Pin 5 of the meter.</p> <p>#Black is the ground that goes to pin 6</p> <p>#The USB connection point goes to the Victron GX device.</p>	<p>The RS 485 pin outs are as follow on the ET340meter.</p> <p>#Orange is the positive that goes to Pin 8 of the meter</p> <p>#Yellow is the negative that goes to Pin 9 of the meter.</p> <p>#Black is the ground that goes to pin 10</p> <p>#The USB connection point goes to the Victron GX device.</p>
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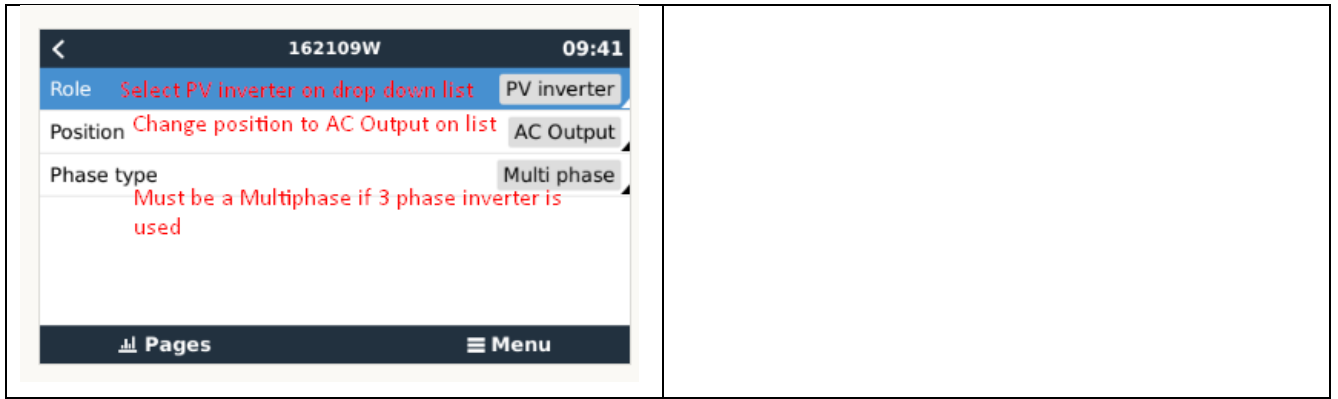
Once this is connected you need to set the meter name to PV inverter and its position would be on the output as per the settings set up.

To set up the PV inverter on the GX device when the ET meter is installed as follows below.

Log into the GX device.

Go to settings and select Energy meters.

	
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Once this is installed the homepage will look something like this.

