

AC Current sensor



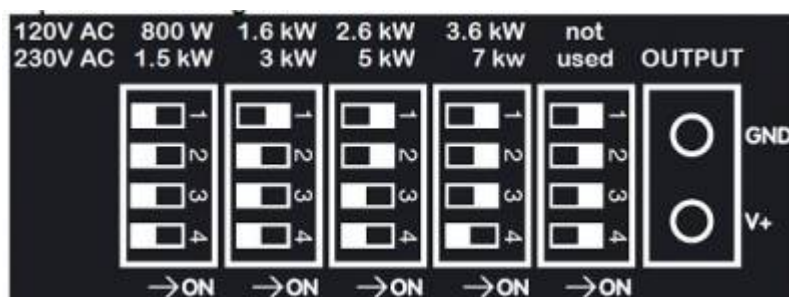
Introduction

The AC Current sensor is a simple external current sensor used to measure AC Current, Power (VA) and calculate energy of a PV inverter connected to the AC input or output of a Multi or Quattro. These values can then be displayed and sent to the VRM-website by the Color Control. The two measurement wires can be connected to the AUX and/or temperature sense input of a Multi or Quattro.

Multi and Quattro hardware requirements

1. The Multi or Quattro needs to have the new microprocessor: make sure that the 7 digit firmware version number, as written on the microprocessor, starts with 26 or 27. Old, and therefore incompatible, control boards will have a firmware version starting with 19 or 20.
2. The TEMP-sense input of all Multi's and Quattro's is suitable for the AC Current Sensor.
3. The AUX-input however is not, see serial number list below to check your hardware.

Installation



1. Put 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.

Configuration

1. Upgrade the Multi or Quattro firmware to the latest version (2xx). Instructions are in the VEConfigure3 requirements document. Download from:
www.victronenergy.com/support-and-downloads/software/
2. Parallel and three-phase systems: configure parallel or three-phase operation first.
3. Then use the VEConfigure3 to add and configure the 'AC Current sensor' assistant.
4. Parallel and three-phase systems: add the assistant to each Multi or Quattro that has an AC Current sensor connected to it.
5. Make sure that the Color Control is running firmware version v1.11 or newer.
6. Select the correct profile on the Color Control: Settings → System setup.

FAQ

How many AC Current Sensors can I connect in one VE.Bus system?

The current maximum is four sensors. Note that each need to be configured separately with an assistant in the Multi or Quattro to which it is wired. We plan to increase this maximum of 4 sensors to 9 or perhaps even higher if possible, in a CCGX software update in 2015 Q2.

Specification

| Power range | 1.5kW | 3kW | 5kW | 7kW | Not used | |
|---|-------|-----|-----|-------|----------|----|
| Power step size Approx depends on input voltage (230V AC) | 9 | 17 | 30 | 35 | - | W |
| Power step size Approx depends on input voltage (120V AC) | 4.5 | 8.5 | 15 | 17.5 | - | W |
| Max measured Current | 8 | 16 | 25 | 30.5 | - | A |
| Max Input current | 9 | 18 | 30 | 40 | - | A |
| Dipswitch | - | 1 | 1,2 | 1,2,3 | 1,2,3,4 | ON |
| Protection category | IP54 | | | | | |

| Supported models | | AUX input | TEMP input |
|------------------|---------------------------------|-------------|--------------------|
| Product code | Description | Minimum SN# | Minimum SN# |
| PMP123021010 | MultiPlus 12/3000/120-50 - 230V | HQ1352 | All serial numbers |
| PMP123021102 | MultiPlus 12/3000/120-50 120V | HQ1322 | All serial numbers |
| PMP243021010 | MultiPlus 24/3000/70-50 230V | HQ1350 | All serial numbers |
| PMP243021102 | MultiPlus 24/3000/70-50 120V | HQ1347 | All serial numbers |

| Supported models | | AUX input | TEMP input |
|------------------|---|----------------------|--------------------|
| Product code | Description | Minimum SN# | Minimum SN# |
| PMP245021010 | MultiPlus 24/5000/120-100 230V | HQ1326 | All serial numbers |
| PMP485021010 | MultiPlus 48/5000/70-100 230V | HQ1326 | All serial numbers |
| — | | | |
| QUA123020010 | Quattro 12/3000/120-50/50-230V | HQ1332 | All serial numbers |
| QUA125020000 | Quattro 12/5000/220-100/100-230V | HQ1347 | All serial numbers |
| QUA125021100 | Quattro 12/5000/220-100/100-120V | HQ1329 | All serial numbers |
| QUA243020010 | Quattro 24/3000/70-50/50-230V | HQ1341 | All serial numbers |
| QUA245021010 | Quattro 24/5000/120-100/100-230V +50A aux. | HQ1326 | All serial numbers |
| QUA243020010 | Quattro 24/3000/70-50/50-230V | HQ1341 | All serial numbers |
| QUA245021010 | Quattro 24/5000/120-100/100-230V +50A aux. | HQ1326 | All serial numbers |
| QUA248020010 | Quattro 24/8000/200-100/100-230V +50A aux. | HQ1333 | All serial numbers |
| QUA483021100 | Quattro 48/3000/35-50/50 120V | HQ1329 | All serial numbers |
| QUA485021010 | Quattro 48/5000/70-100/100-230V +50A aux. | HQ1330 | All serial numbers |
| QUA485021100 | Quattro 48/5000/70-100/100-120V/60Hz +50A aux | HQ1341 | All serial numbers |
| QUA488020000 | Quattro 48/8000/110-100/100 230V. | HQ1327 | All serial numbers |
| QUA481030010 | Quattro 48/10000/140-100/100 230V +50A aux | HQ1326 | All serial numbers |
| QUA488020000 | Quattro 48/8000/110-100/100 230V | HQ1327 | All serial numbers |
| QUA481030010 | Quattro 48/10000/140-100/100 230V +50A aux. | HQ1326 | All serial numbers |
| — | | | |
| PMP243021014 | Multi-G 24/3000/70-50 | All serial numbers | All serial numbers |
| PMP245021014 | Multi-G 24/5000/120-100 | All serial numbers | All serial numbers |
| PMP485021014 | Multi-G 48/5000/70-100 | All serial numbers | All serial numbers |
| — | | | |
| Other models | | Not yet implemented. | All serial numbers |

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