A-Core Container

Solar inverter outputs negative value

Overview

When power and current are 180° out of phase, the power reading is negative. Changes in phase relationship also have a bearing on the power factor reading.Why is my PV inverter generating negative power at night?

This will generally result in negative power or a very low power factor. In some cases, you may see negative power readings from a PV inverter at night. See Non-Zero Nighttime PV Power Generation for more information. Reverse the CT on the wire being monitored. Swap the white and black wires at the WattNode.

Why does my PV inverter have a low power factor?

For example, suppose the CTs are shifted by one phase, so that instead of monitoring phases A, B, and C (in that order), the CTs are on B, C, and A. This will generally result in negative power or a very low power factor. In some cases, you may see negative power readings from a PV inverter at night.

Is solar power a positive or negative source?

For example, in most buildings, power from the grid, is considered "import" (positive), and power that is pushed to the grid is "export" (negative). However, in a solar inverter application, the inverter may be considered the source, and it is desirable for its power delivered to be considered positive.

What is a negative power reading in a photovoltaic system?

The white and black CT wires are swapped at the WattNode. This is a bidirectional power measurement application, such as a photovoltaic system, where negative power occurs whenever you generate more power than you consume. In this case, there is nothing wrong with the negative power readings, so long as they occur when power is being generated.

Should a solar inverter be considered a source?

However, in a solar inverter application, the inverter may be considered the

source, and it is desirable for its power delivered to be considered positive. It is imperative that when installing a meter and CTs, that the voltage to current "phasing" be observed.

What happens if solar generates more than the inverter output energy?

The intention was to subtract the solar generation from the inverter output energy and thus obtain how much energy was consumed from the grid. However, I have observed that when solar generates more than or an equal amount of energy as the inverter outputs than the “Grid Energy Usage” value would actually decrease.

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