

APsystems Microinverter Night Consumption

According to the feedback of some installers, a fairly high current can still be detected when the APsystems microinverter stops working at night. If the current is multiplied by the grid voltage, it results in a power loss value greater than 20W, which is actually the Apparent Power. The real power consumption charged by the electric power company = Apparent Power* Power Factor. The following terms are used to describe energy flow in a simulated AC grid-tied system:

- Active Power (P): Watt [W], active power is the real consumed power by load which is measured and charged by the electricity company.

- Apparent Power (S) = Grid Voltage*Grid Current

- Power Factor (PF) = Real power (P) / Apparent power (S)

The calibrated AC Power Analyzer is applied to this experiment. A DS3 microinverter is connected to the local grid (220VAC) without being in operation, to simulate night consumption.



The real power consumption (active power) in the microinverter is calculated based on the following :

P= S X PF = 226.583 * 0.09314 * 0.00063 = 13.2mW

The result is consistent with the value "0.013W" on the AC Power Analyzer.