YC600 Night Consumption

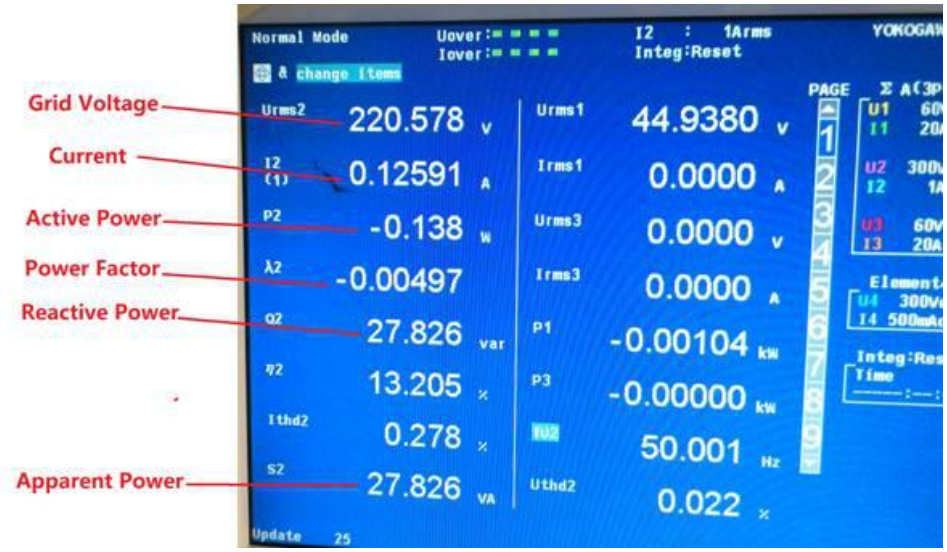
This lab experiment had been requested from the technical supporting team, due to the customer question regarding the YC600 micro-inverter night-time real power consumption is greater than the product datasheet claimed, potentially raising the end user's utility costs.

We use the following terms to describe energy flow in a simulated AC grid-tied system:

- **Active/Real power (P)** or active power: watt **[W]**
- **Reactive power (Q)**: volt-amperes reactive **[var]**
- **Apparent Power (S)**, the absolute value of complex power: volt-ampere **[VA]**
- **Power factor (PF)** = Real power **(P)**/ Apparent power **(S)**

The calibrated AC Power Analyzer had been applied into this experiment; one YC600 had been connected into local grid (220v AC) without operating, to simulate night-time consumption situation.

The collected results as below:



V_mea_rms = 220.578v **I_mea_rms** = 0.12591A

PF = 0.00497

Then the real power consumption in the inverter delivered by following calculations:

S = **V_mea_rms * I_mea_rms** = 220.578 * 0.12591 = **27.8 VA**

P = **S** X **PF** = 27.8 * 0.00497 = ***138mW***

The result of 138mW is very close to the datasheet claimed 120mW

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