



# User Manual



Model No: **PN2000**

Thank you for purchasing the **Electricity Usage Monitor** by Ponnie. Please read this manual carefully before using this product.

**Note:** There is a protective film on the screen, the film itself may seem to have some "scratches", please peel off the film before use!

## Overview

The device can measure **Watts** (active power), **Current** (true RMS), **Voltage** (true RMS), **Frequency**, **Cumulative Time** (with hold over circuit memory), **Electricity Consumption** (with hold over circuit memory) and **Power Factor** (as  $\text{Watts}/\text{V}_{\text{rms}} \times \text{Arms}$ ).

### How to calculate your dollar cost of energy consumption over a period?

Plug the PN2000 device into the outlet, then plug the electric appliance which you want to test into the Power Monitor. It will start measuring the kilowatts used over a measured period of time.

**For instance**, you get a total use of **Electricity Consumption (kWh)** over 24 hours for an appliance and you can just multiply it by your **Cost per kWh** the utility charges you on your bill, then you will know the daily cost to operate. Similar way to assess your electrical expenses by the Day, Week, Month or Year.

**Note:** If any other fees per kWh, like the distribution charge, should be also added to the Cost per kWh when applying the calculation.

### **Warning**

To avoid electric shock or personal injury, read the “Safety Information” carefully before using the Monitor.

## Safety Information

1. Be sure to read, understand and comply with all the instructions in this manual.
2. Before using this product, check to see if there is any crack or short of plastic parts on the shell, pay attention to the insulation around the connectors. Please do not use the product if it is damaged.
3. **DO NOT** use the device on anything that could possibly have a surge amp rating greater than 16 amp. The loading power of electrical appliances cannot exceed the rated power of this product (1840W at 115V).
4. **DO NOT** use the device near the max rated specs (in most cases, the true RMS Current will be around 15A) for a long time to avoid any unwanted damage or accident.
5. **DO NOT** use the equipment in wet environments, keep your hands dry.
6. **DO NOT** operate the monitor around explosive gas, vapor or dust.
7. **DO NOT** open the case of the meter or alter the internal circuit of the meter.
8. **DO NOT** allow children to operate this device, keep children stay away from the monitor.
9. **DO NOT** use or store the device in an environment of high temperature, humidity, explosive or inflammable field. The performance of the meter may deteriorate after dampened.
10. **NOTE:** The monitor work with all standard power supply, an inferior quality power source (with too much harmonic distortion) such as unqualified inverter may cause damage or shorten device's lifespan.

## LCD display



1. There are four functional buttons on the product “▼”, “▲”, “SET” & “OK”
2. LCD display is shown as above.

## Operating instructions

### 1. Device startup/shutdown

Directly plug the monitor into the power supply socket, and connect to commercial power to start the device; disconnect the power supply to shut down.

### 2. Backlight setting function



Figure 1

Under the “CUR” display interface, press “SET” for 2 seconds to enter backlight setting interface. It will display “LEd” after entering the interface, and the “ON or OFF” is flickering (as shown in Figure 1). At this time, you can select to turn “ON or OFF” by pressing “▼” or “▲” button momentarily, and after selection, press the “OK” to exit setting. “OFF” means when the device has no button operation in 10 seconds, the backlight will automatically off (fault factory setting); “ON” means the backlight will always on.

### **3. Measure and operation**

#### **① Measuring mode**

Under measuring mode one can freely check working Current, Voltage, active power Watts, Frequency, Electricity Consumption(EC), Cumulative Time(CT) and Power Factor(PF) by pressing “▼”: **WATT→CUR→VOLT→FREQ→CT→EC→PF**. Press “▲” the check sequence shall be reversed.

#### **② Electricity Consumption & Cumulative Time**

Respectively switch to cumulative Electricity Consumption(EC) monitoring interface (as shown in Figure 2) and cumulative Consumption Time(CT) interface (as shown in Figure 3) by pressing “▼” or “▲”, and the measuring display ranges shall be 0.00-99,999kWh and 0-99,999 minutes respectively. The measured electricity consumption value will be automatically stored, and will not be lost even under long time outage, which is great for circuits that loose power.

## How to clear EC and CT data?

Respectively switch to EC and CT monitoring interface. Press “SET” for 2s, the cumulative electricity consumption value and time will flicker. Press “OK” to reset.

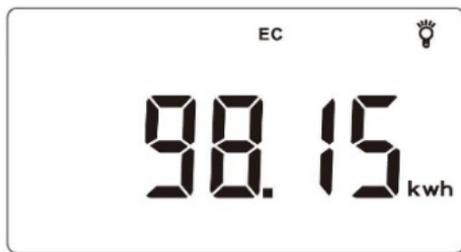


Figure 2

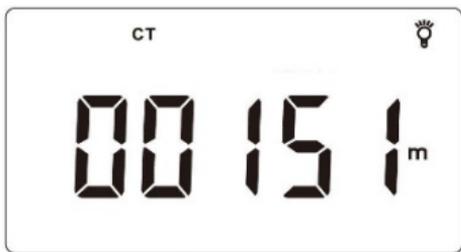


Figure 3

## ③ Watts and Current

Respectively switch to Watts (WATT) monitoring interface (as shown in Figure 4) and Current (CUR) monitoring interface (as shown in Figure 5) by pressing “▼” or “▲”, the measuring display ranges shall be above 0.20W and 1.000-16.000A (It displays mA when under 1A).



Figure 4

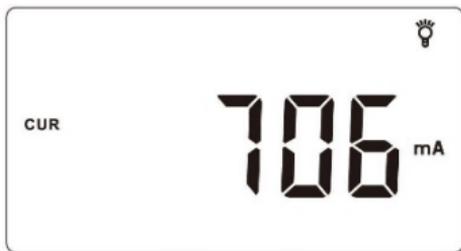


Figure 5

## ④ Voltage and Frequency

Respectively switch to Voltage (VOLT) monitoring interface (as shown in Figure 6) and Frequency (FREQ) monitoring interface (as shown in Figure 7)

by pressing “▼” or “▲”, the measuring display ranges shall be 110.0-260.0V and 40.00-60.00Hz respectively.



Figure 6



Figure 7

### ⑤ Power Factor and Overload Indication

Switch to Power Factor (PF) monitoring interface (as shown in Figure 8) by pressing “▼” or “▲”, the measuring display ranges shall be 0.001-1.000.



Figure 8



Figure 9

**Overload indication setting:** After long pressing “SET” on the Watts display interface for 2 seconds, the thousand-digit on LCD will flicker, then enter overload indication limit setting. Press “▼” or “▲” to adjust value and press “OK” after completing thousand-digit adjustment to set hundred-digit, and so on. Remember press “OK” in the end to exit the setting mode.

**Note:** The default factory value is 1800W (16A, 115V), you can set your own limit if needed. When the power of the electrical appliance exceeds the setting limit, the backlight will flicker to indicate overload (as shown in Figures 9), please turn off the power and remove appliance immediately.

## General Specifications

Applicable power supply	110-220V 50/60Hz
Maximum rated current	16A
Maximum power	1840W(@115V) / 3520W(@220V)
Measurable range	0.20W >
Maximum electricity consumption(EC)	99,999 kWh
Maximum cumulative time(CT)	99,999 minutes
Power factor	0.001-1.000
Backlight function	10s Auto off (ON/OFF can be set)
Accuracy standard	Class 1.0
Active energy constant	6400imp/kWh
Resolution	0.01W, 0.001A, 0.01V
Power dissipation	<1.00W
Working temperature	0~45°C
Storage temperature	-20~60°C
Inner & outer Material	ABS fireproofing
Product dimension	120*60*55.7mm
Net Weight	125.5g

## Package Content

- 1 x PN2000 Digital Electricity Monitor
- 1 x User Manual
- 1 x 1 Ft. 14AWG Extension Cord

### **IMPORTANT:**

- 1) It is not recommended a long uninterrupted use for loads over 15 amp (1725W at 115V).
- 2) Please do not overload (1840W at 115V) the device at any time. Failure to comply with the instructions given in this manual and/or using the device in ways other than the ones mentioned in this manual may result in serious injury and/or damage to the product.
- 3) The inner and outer device material is ABS fireproofing. If device is over used or exposure to excessive heat, it may cause a melt incident. If use open flame to light this material, it will be extinguished immediately when the flame is removed. Still, you need use this device carefully to avoid any fire hazard.

## Warranty

The warranty period for quality related issues of this product is one year. If the device does not operate properly or has any other faults, please always feel free to contact Ponii Customer Service at any time. We will provide you with best service and do our best to help you out.