Wattman®

- Power Meter -

NEW

DATA LOGGER

GUI PROGRAM

Wide Input Range (100uA ~ 15A)

HPM-100A

Standby Power & Consumption Power
We can measure with "Wattman" Simply

The Fifth Energy : Energy Saving = CO_2 Reduction

Wattman is a plug & play measuring device that can measure power consumption and standby to show 4 measuring items at the same time by connecting the plug of a measuring device to its internationally common power strip in the frontal part as a IEC 62301 international standby measuring standard.
Wattman can measure and easily show AC V, A, W, PF, Hz, Wh, expected bill amount by Wh and carbon emission.
It is a measuring device which enables the analysis of consumption pattern of consumed electric power/standby power of electric appliances.
It is utilized in the IoT related energy management workshop of IEA for appliances.

CO_2
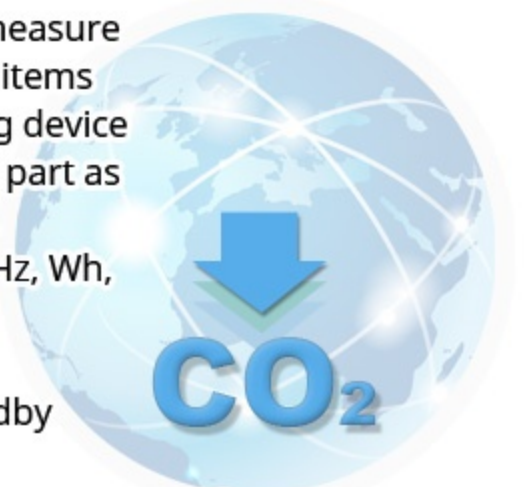
🌐 Excellence of Wattman

· Performance approved product from international testing authority, Intertek (UK)

· NEP product, global first class cosmetics products, excellent procurement products, (KOREA)

· Easy and convenient access with the international size multi-receptacle (plug & play system)

· Apply global common use multi-outlet(Global commercialization)

· Wide LCD screen, simultaneous elements measurement of V, A, W, Hz

· A variety of measurement: calculates capability of Electricity cost and CO_2 emission in each country

· GUI program and RS232 communication support: Real time graph & statistic and report

· Free support on GUI Program (apparent power and reactive power measurement for PC)

· Time setting function: 1 ~ 24 hours (at Watt-Hour measurement)

· Invited and exhibited in international standby electricity meeting of Australia, India and Japan

· Products adopt IEC 62301 standby electricity measurement standards

· Appointed product in Europe SELINA Project

· Dynamic & Multi Data Logger Support

· Embedded Data Logger : No need USB or SD Card

· No battery and no adaptor

· Precise low-power, low-power factor measurement

· Electricity cost can be set by using a button

🌐 Parts of Wattman

· RS232 D-SUB 9Pin

· Wide LCD (V, A, W, Hz)

· Stand (2 step)

· Safety rubber
(Safety prevention)

· Global common us multi-outlet
(Plug in measurement device)

① Data logging indicator: it blinks when data logging

② Input power indicator: AC only

③ Pause indicator: pause displaying measurement / It blinks when the Key Lock is activated

④ Communication indicator: PC communication indicator

⑤ Measuring process indicator: when calculating watt hour, it displays "ENERGY"
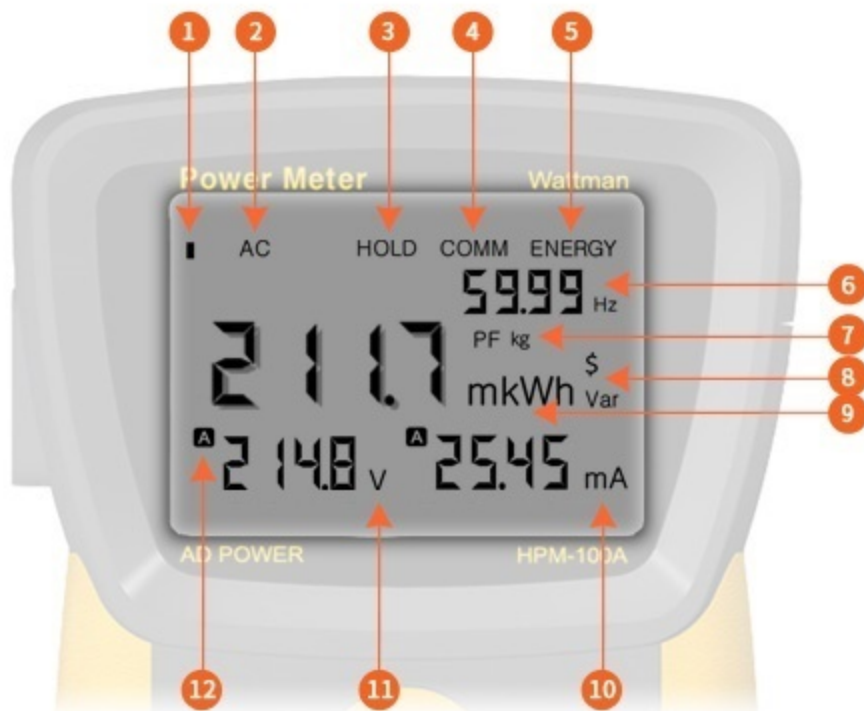
⑥ Frequency indicator: it displays the measured frequency

⑦ It displays power factor, CO_2 emissions, electricity cost unit

⑧ It displays the measured reactive power unit ($ ₩ ¥ € 元)

⑨ It displays the measured active power and watt hour unit

⑩ Current indication: it displays the current of the appliance

⑪ Voltage indicator: it displays the voltage of the appliance

⑫ Auto range & manual range indicator: it operates the range automatically

* Initial condition
The initial condition is set to be 0.000V, 0.000mA, 0.000mW, and 00.00Hz. It is displayed as auto range.

A. Light LCD Backlight operation ON, OFF

B. HOLD Stop the measured value as a fixed value.

C. Wh CLR pressing the button for more than 3 seconds when ENERGY is off the accumulated electric energy (Wh) mode, it is initialized with a buzzer sound

D. Display Mode conversion key for electric power (W), accumulated electric energy (Wh), power factor (PF), electricity cost, amount of CO_2 discharged (kgs)

E. Wh TIME SET setting of accumulation electric energy (Wh) and accumulated time

F. Wh RUN/STOP setting of accumulation Start/Stop in the accumulated electric energy(Wh) mode

G. COST SET setting of the electricity cost and the amount of CO_2 discharged

🌐 Wattman Accesories

Basic Component

HPM - 100A

**GUI Program
& Manual CD**

Standard Load

Bag

Optional Component

(Cable Drive CD)

RS232 to USB Cable

🌐 General Features

· Standard Testing Temperature : 23℃, (±4℃)

· Effective Test Temp & Humidity : 10℃ ~ 50℃, (30 ~ 95%)

· Storage Temperature : 10℃ ~ 60℃

· Material of Case : ABS Resin

· Sampling Time : 2 count/ 1 sec

· Response Time : ≒ 1.5 sec

· Weight & Dimensions : 115(W) X 200(H) X 45(D)mm, ≒ 650g

🌐 Technical Specification

- **Voltage** : **AC 90 ~ 240V, ±0.3%rdg. ±3dgt**
- **Current** : **AC 100uA ~ 15A**
  - 100uA ~ 5mA, ± (0.5%rdg ±3dgt)
  - 5mA ~ 10A, ± (0.3%rdg ± 3dgt)
  - 10A ~ 15A, ± (0.4%rdg ± 3dgt)
- **Active Power** : **AC 0.009W ~ 3,600W (PF 1.0)**
  - 0.009W ~ 0.45W, ± (0.5%rdg ±3dgt)
  - 0.45W ~ 2,600W, ± (0.4%rdg ± 3dgt)
  - 2,600W ~ 3,600W ± (0.5%rdg ±3dgt)
- **Power factor** : **± 0.001 ~ 1, ± (0.5%rdg ±3dgt)**
- **Frequency** : **50Hz ~ 1,000Hz, ± (0.5%rdg ±3dgt)**

🌐 How To Use Examples

1 Put the plug of measured product in multi-outlet at the below right below of the product after power in.

2 Change to Watt-hour (Wh) mode by pressing DISPLAY button.

3 Set time by pressing Wh TIME SET button.

4 Press Wh RUN/STOP button.

5 "Energy" sign is displayed at the above right of LCD screen and start integration.

6 After wattage integration press DISPLAY button and change to CO_2 emission mode.

7 Confirm CO_2 emission quantity.

8 Change to electricity cost mode, when press DISPLAY button.

9 To initialize Data, Press Wh.CLR button For 3 Seconds.

🌐 Green Codi Use Instruction

Function to calculate a monthly and yearly estimates for electricity usage, electricity cost, and CO_2 emissions

When you press the "HOLD" button and the "DISPLAY" button in the active power mode, Wattman will calculate and show a monthly and yearly estimate for watt hours usage, electricity cost and CO_2 emissions.

1

AC   HOLD
ñon
152.4 Wh
2 14.8 v 25.45mA

Estimates of monthly
watt hours usage

2

AC   HOLD
YEAr
1.829 kWh
2 14.8 v 25.45mA

Estimates of yearly
watt hours usage

3

AC   HOLD
ñon
0.025 ⌘
2 14.8 v 25.45mA

Estimates of monthly
electricity cost

4

AC   HOLD
YEAr
0.307 ⌘
2 14.8 v 25.45mA

Estimates of yearly
electricity cost

5

AC   HOLD
ñon
0.064 kg
2 14.8 v 25.45mA

Estimates of monthly
CO_2 emissions

6

AC   HOLD
YEAr
0.777 kg
2 14.8 v 25.45mA

Estimates of yearly
CO_2 emissions

🌐 PC base data collection and analysis

▼ Various power analysis function

As power analysis function, Wattman supports PC base data collection and analysis and Data Logger base data collection and analysis.

PC base data collection and analysis

- Upgrade program and adding new functions:
Changing Viewer: HPM100 Viewer → Wattman Viewer (Old viewer is also available by protocol setting). Enhanced stability against exceptional case such as error of communication during gathering data and upgraded convenience such as indication of gathering time, user friendly icon. Added functions of Watt-Hour control button, Data Logging, Discrete Mode (individual gathering mode) , settings of logging data and analysis.

- Real Time Graph & All Data Table with Statistic: Graph for collected data in real time and showing statistics of real time data table, minimum, maximum and mean, discharging volume of CO_2 and estimated monthly amount with all data table basis.

- Collecting data setup and automatic storage of file: Detailed collecting conditions settings such as interval of collection, name of file, total collecting time, unit, CO_2 and electric charge and automatic storage of collected data in the name of set file. Also Compatible format of Excel File support.

- File Statistics & Graph Analysis: Statistics of stored file to indicate minimum, maximum and mean, discharging volume of CO_2 and estimated monthly amount on the table and mark individual graph for every collected V, I, W, Wh, PF, frequency, cost data. Graph tool support to analyze rapidly and accurately file with strong graph analysis tools such as enlargement and contraction of horizontal, vertical, entire and individual basis and movement and asymptotic curve.
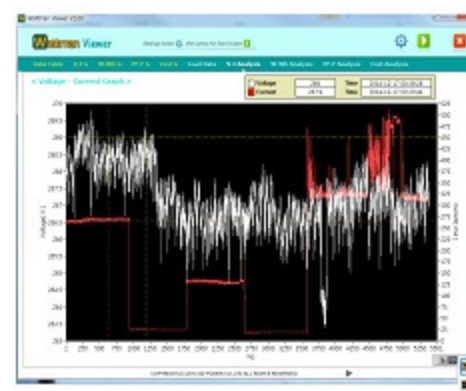
# 🌐 Data Logger base data collection and analysis

- Support of Timer log mode and Run/Stop log mode with built-in memory:
Embedded Data Logger system to gather data by using internal memory of the product in circumstance without PC.
As it has built-in memory method, user doesn't need storage medium like USB stick and preserve data semipermanently until initialization. Also collect 10,000 ~ 20,000 points. Anyone can use easily Data Logger with data logger display. Data Logging displays the logged time, logging index, logging count in LCD.


- Support of Dynamic & Multi Logging: Total log time set available by setting dynamically interval of storing time and stored item by simple setting. Also support multi logging to help user to log after logging. Multi logging will save time and give convenience and in analyzing data.
The following pictures show the dynamic logging setting and 3 multi logged data graph.
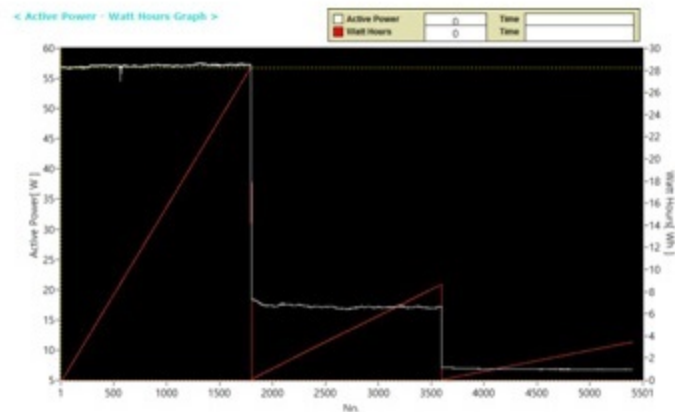
- File Save, Statistic & Graph Analysis: Support of statistics of logged data in file after loading data with Wattman Viewer (compatible with excel program) and thereafter show minimum, maximum and mean, discharging volume of CO_2 and estimated monthly amount as same manner of PC collecting data and indicate individual graph for every collected V, I, W, Wh, PF, frequency, cost data. It may analyze rapidly and accurately file with strong graph interpretation tools such as enlargement and contraction of horizontal, vertical, entire and individual basis and movement and asymptotic curve
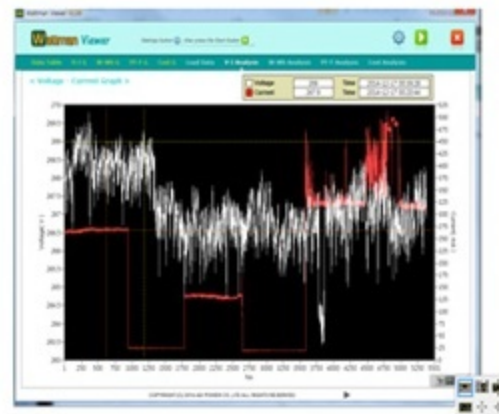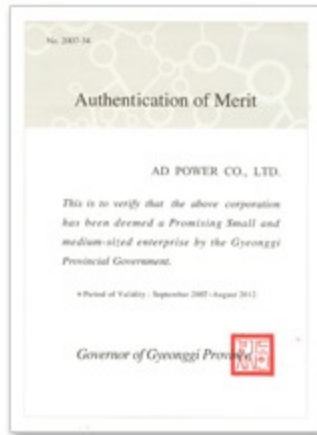
🌐 Certificate and Property Rights

CE

FCC

NeP

Certificate

Exellent Product

Certificate

Product Award 2012

❇ Domestic Usage Examples

According to increasing CO_2 emission through fast industrial growth, environmental pollutions and global warning of the globe is progressing very rapidly.

Energy saving is called as the 5th energy and everybody in the world have to participate in energy saving movement with low carbon and green growth policies.

▼ Application Areas in Local

Safety & Saving Training
[Korea Electrical Safety Corporation]

Training for Green Leaders
[Namdonggu Office, Incheon]

Energy Clinic Service
[Seoul]

GGAG21 Technology Training
[Gyeonggi-do]

Energy Saving Policy Research School's
Teacher Training - [KEMCO]

Energy-Saving Schools
[Nationwide]

Energy Angels
[Seoul]

Green Home Consultant Training
[Gyeonggi-do]

Green Korea United
[Gwangju]

Energy Designer
[Seoul]

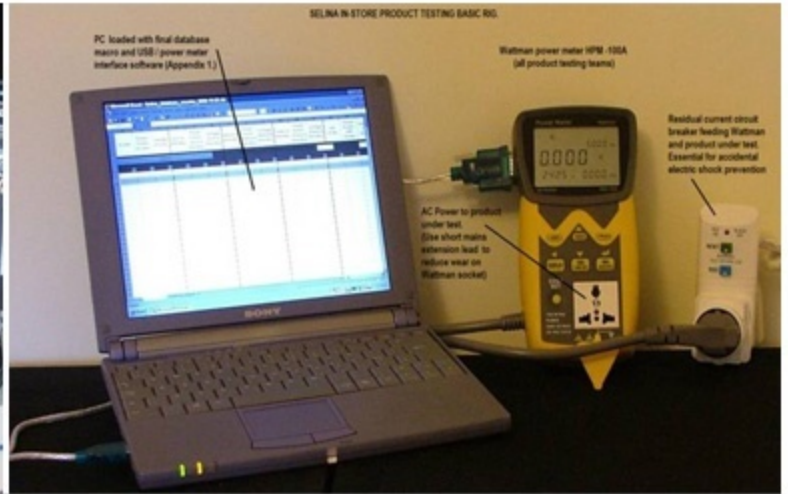Home Energy Doctor
[Cuckoo Electronics Co., Ltd.]

Green Coordinators
[Songpa, Seoul]

▼ Application Areas in Global

Analysis of standby consumption behavior

Analysis of standby consumption behavior of home appliances in entire Europe - [Using Wattman]

UK - Intertek

Standby Measurement

Standby Measurement of major electronics retailers in Washington, D. C., U.S.A. - [Using Wattman]
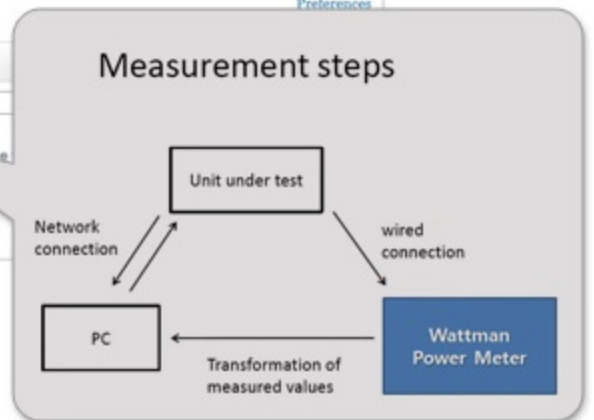

International Network Standby Conference

International Network Standby Conference in Australia & India - [Using Wattman]

IEA-Standby-Network

Develop a methodology regarding the collection of data on how much energy appliances consume when in standby mod and connected to networks - [Using Wattman]

❋ Local and Global Sales Records

▼ Interagency

KERI
Korea Electrotechnology Research Institute

KOREA ENERGY AGENCY
Korea Energy Agency

KESCO
Korea Electrical Safety Corporation

KCEN
Korea Climate & Environment Network

▼ Local Government

SEOUL
Seoul Metropolitan Government

Global Inspiration GyeongGi-Do
GyeongGi-Do Province

SONGPA-GU
Songpa-Gu Office

▼ Company

SAMSUNG
Samsung Electronics

LG
LG Electronics

ChungHo Nais
ChungHo Nais

CUCKOO
CUCKOO Electronics

coway
coway

▼ School

Environment demonstration school, Energy policy study school, Energy saving demonstration school, elementary school etc.

✳ Demonstration Data of Specific Products

Guidelines from the international Energy Agency (IEC) has already proposed 30mW of standby power to a mobile phone charger. And IEA will attach up to 5 stars. Other products also need further attention.

SAMSUNG

▲ PF comparative measurement   ▲ Standby Power

In Korea, representative Samsung Electronics Phone charger shows standby power 90mW and PF 32%, Excellent!

PHILIPS

▲ PF comparative measurement   ▲ Standby Power

Philips products charger data is the similar for Power Factor, But PF is higher.

motorola

▲ PF comparative measurement   ▲ Standby Power

Motorola charger data also is similar to Samsung products One. Excellent!

🌐 Related Products

▼ PM-2400

This product is a wattmeter that can measure and analyze electric power in various industries. It can measure both AC/DC power consumption and standby catching up with the recent industrial trend. The product is designed to display 4 parameters (V, A, W and PF) at the same time as measuring power factor becomes essential for the recent standby measuring conditions.

▼ HPM-300A

As a new and renewable concept of wattmeter, this product can measure consumption, standby and AC/DC as well. HPM-300A provides function to measure and display 4 parameters (V, A, W and Hz) at the same time on the wide LCD and 11 parameters like PF, Wh etc. Additionally, its measurement range can be expanded 5A to 1,000A standby using AC/DC clamp sensor. Also it can measure 3-phase 4-wire type using 3 wattmeters methods.

▼ Internet Data Center (IDC)
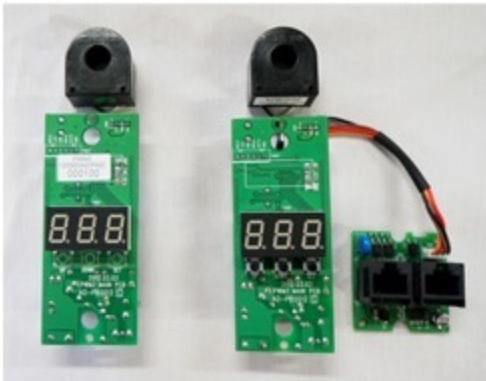
This product includes a power measurement unit inside the power strip to measure V, A, PF, W and Wh and to display data communications. The power module for IDC Data System is needed to lower electricity cost by integrated power monitoring of multiple servers by centralized manager.