스마트 에너지 측정기

Smart Energy Meter

SEM3000

KORINS

Made in Korea World Best Product

Smart Energy Meter SEM3000

This devise measures both household and industrial power usage by installing a current sensor where the totalizer meter is attached to. The devise transmits the measured power wirelessly to the receiver located within 30m to provide the estimate of instantaneous power, total power, daily/monthly electricity cost and graphically display the power usage of the previous day. One devise may have a maximum of 10 sensors attachments to enable monitoring the data of 10 channels wirelessly. If the software, sold separately, is used in conjunction with a provided USB cable, it can graphically display the data of 1 hour/2 hour/1 day/1 month/1 year periods. Additionally, if the Gateway, provided separately, is used to connect to internet, it enables Cloud service that can monitor 1 day and 1 week graphs from the website remotely for a maximum of 10 channels

Household electricity cost, on the average, in U.K in December 2012 is € 0.16/kWh; it costs € 48 if 300kW is consumed per month and € 64 for 400kWh and € 80 for 500kWh. In Germany, the electricity cost is € 0.25/kWh. But it is expected that the electricity cost in the U.K will increase 1.5 to 2 times in a few years.

Therefore, a real-time electric power consumption and the electricity rate monitoring system is necessary in order to save the electricity cost. A totalizer meter that every household has can be used to monitor for a month power usage, however it cannot graphically monitor the power usage for a day or power consumption of each electric home appliances. Therefore, consumers shut off the electricity to each appliances time to time in order to save electricity, however, this method alone cannot make enough power savings.

There are many home appliances manufactured more than 5 years ago that are being used today which consume more than twice the electricity than the recently made. SEM3000 can show us all of those and enable us the electricity bill savings at least 20%.

Additionally, home appliances of today are mostly electronic device that use standby power from 1W to 15W. This contributes €30 to € 80 in a month to the electricity bill per household. When the SEM3000 is employed, consumers can monitor and find a way to save power utilizing the Gateway, one can check remotely by monitoring displayed graphs. If household power consumption is being managed effectively at the internet website, It also enables to check the power-saving points through the remote monitoring of graphs per sensors per day in real-time.

Characteristics

1. Wireless power measurement device (a maximum distance of 30m)
2. Permits monitoring of changing power rate and estimated electricityconsumption as the home appliances are turned on or off
3. Displays instantaneous power and 1 day/1 week/1 month/ power usages
4. Displays the power consumption of previous day in graph
5. Permits the power consumption measurement and recording using 1 monitor with up to 10 wireless sensors installed
6. As an option, the power monitoring is possible with
13. Function to count indoor residents and can confirm if all residents are out
14. Permits automatic power shut off for applicances that can be switched off in the event all residents are out
15. Displays date, month, year, time and day of the week
16. Displays power consumptions of 1 day, 7 days, 30 days and electricity consumption cost
17. It displays the power consumed vs. target power consumption in percentage (%) to enable users to estimate and control the power consumption for the remaining day in 1 month.
18. It provides the alert boundary per power maximum

optical sensor installed to a digital totalizer meter

7. As an option, 300A wireless power clamp intallation available (to a maximum instantaneous power of 30kW)

8. An optional software enables power graph of 1 hour/1 day/30 days/12 months/5 years

9. An optional bridge enables graphs of 1 day/1 week/ power consumption with internet display
10. Monitors CO_2 emission and saved

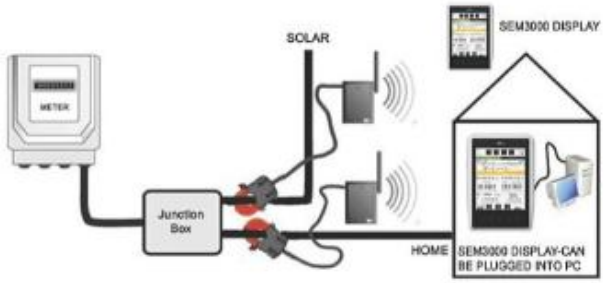
11. Power consumption graphs of previous day, today, current week(Monday – Sunday) and 7 months
12. Permits entering of 6 electricity unit rates for home

accommodation times and a sounding alarm to induce power-savings to comply with the national policy.

19. Displays the alert boundary in LCD if power consumption exceeds the monthly target under the 6 phased electricity rate for home

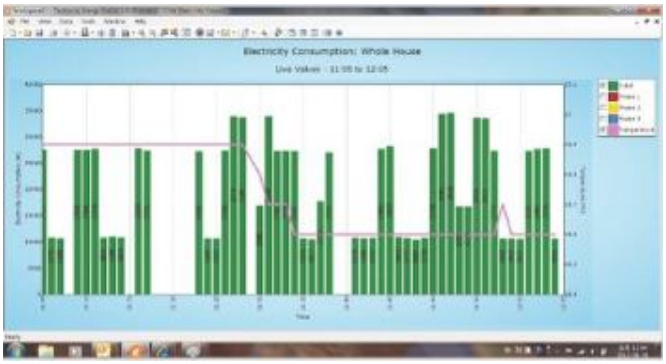
SEM3000 Internet Cloud Service functions (Option)

20. Provides 10 channels for of daily, weekly, monthly, yearly graphs for one year
21. Provides comparision graphs for one year of previous /present day, previous month/present month, previous year/present year
22. Permits integrated management of up to 999 sites (for a company with numerous branches)

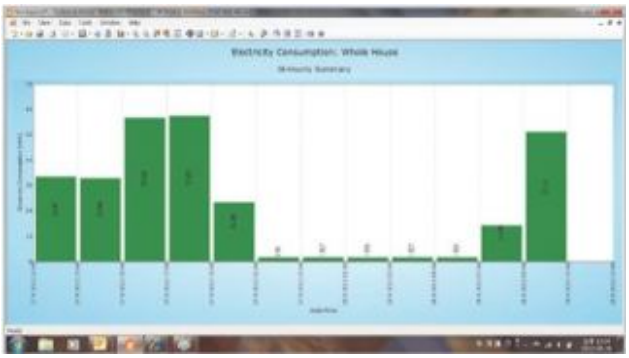


computer software using USB and RS232 cable

■ 1 hour power consumption Graph

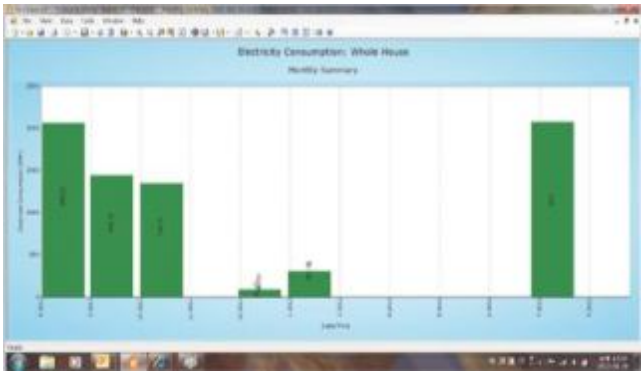


■ 1 day power consumption Graph

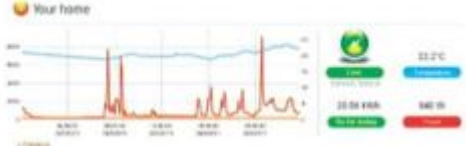


■ 1 month power consumption Graph

■ 12 months power consumption Graph



Major products

Items	Contents
	**Wireless transmitter (CRT3000)** Non-contact clamp is connected to a wire of the electricity measuring device and transmits measured current data wirelesly to the receiver at 433MHz. (supply of two types, 80A & 200A are possible) Three-phase electricity can be measured by connecting 3 clamps.
	**Wireless IN-HOME DISPLAY Receiver (IHD3000)** The receiver can receive and save data up to 10 transmitters. The transmitter shows the power consumption of 1 day/1 week/7 weeks/7 months. The real-time power consumption, fee, and monthly goal are displayed in comparison of current usage in percentage format. It is possible to display the monthly power consumption and the amount.
	**Plug-in Wireless Transmitter (PIT3000)** It fits the purpose since most home appliances are plugged in at the wall socket. One of the available options is a remote power off function.
	**Software (SOFT3000)** Data measured by the device can be seen or saved on the computer or saved as a graph or a test file through a USB cable
	**IHD + Gateway (IHD3500)** Connection to the Internet cloud by an imbedded Gateway function within the IHD main body through a LAN cable. Up to 10 transmitter's data can be received into the internet server.
	**Cloud Service (CLOUD-1)** Real-time graphs and data extracted from the transmitted and saved electric power information data to the Cloud Server are provided on the web. A project to provided customer required service by processing the saved data. A basic service is a data graph of 10 CH power measurement data graph. A limited premium service is provided to the multi-user of 100 CH or 1000 CH

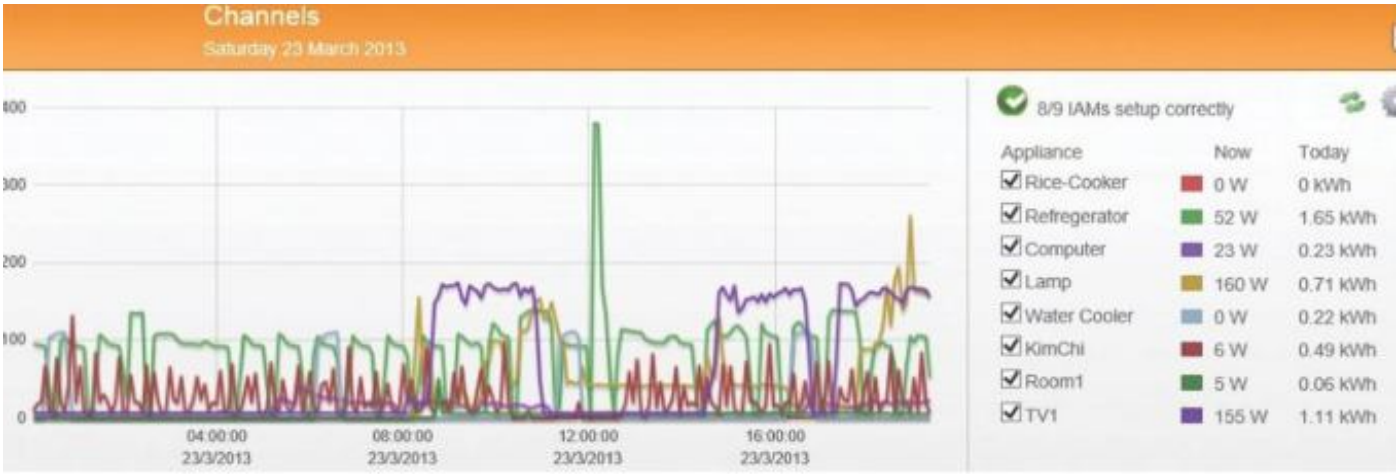
Hourly power consumption per each home appliances, monthly power consumption and CO2 emission

Home Appliances	Power Consumption	Usage per day	Number in use	Monthly Consumption (kWh)	Monthly Rate €	CO_2 Emission Per Hour
Refrigerator (700L capacity)	104Wh	24h	1	75	12.00 €	44 g
Freezer (200L capacity)	118Wh	24h	1	85	13.60 €	50 g
Kimchi Refrigerator(200L capacity)	57Wh	24h	1	41	6.56 €	24 g
LCD TV (40 inches)	150Wh	6h	1	27	4.32 €	64 g
A/C (based on 36.3 m^2 capacity)	608Wh	2h	1	37	5.92 €	258 g
Cloth Washer (based on 10kg capacity)	33Wh	1h	1	1	0.16 €	14 g
Trumm Cloth Washer (10kg capacity)	480Wh	1h	1	15	2.40 €	204 g
Dishwasher (12 people capacity)	627Wh	1h	1	19	3.04 €	266 g
Dish Dryer (7 people capacity)	27Wh	1h	1	0.8	0.13 €	115 g
Hot/Cold water dispenser(4L capacity)	66Wh	24h	1	48	7.68 €	28 g
Rice Cooker (10 people capacity)	73Wh	6h	1	13.2	2.12 €	31 g
Vacuum Cleaner (1200Wakf)	1200Wh	1h	1	36	5.78 €	510 g
Desktop PC	150kWh	4h	1	18	2.88 €	64 g
Notebook PC	50kWh	4h	1	6	0.96 €	21 g
Fan (Diameter 35cm)	59Wh	3h	2	10.6	1.70 €	25 g
Air Filter (26.4 ㎡)	40Wh	2h	1	2.4	0.39 €	17 g
Incandescent bulb (60W)	60Wh	4h	1	7.2	1.16 €	25 g
Fluorescent Lamp (32W)	32Wh	5h	5	24	3.84 €	14 g
Lamp with Ballast(17W)	17Wh	4h	2	4.1	0.66 €	7 g
Monthly Rate Unit Price (Based on unit price of €0.16/kWh)				**470.3**	**75.30 €**	**199kg**

The standby power of home appliances (assumed to be approx. 2 to 15W for 24hrs and monthly 10 to 30 kWh per household) are not calculated in the above computation. The power consumption of a refrigerator can be increased when the kept food volume is increasing.

For the hot and cold water dispenser, 30 kWh/month will be saved if the hot water function is not be in use. (Please refer to PIT3000)

10Ch. Internet Cloud Service



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