STEP ONE INSTALL BATTERIES

Using a cross head or flat bladed screwdriver, remove the Sender Unit battery compartment cover and insert 3C batteries. Press the RESET button located on the rear of the Transmitter

Slide the rear battery compartment off the Display Unit. Insert 3 AA batteries in the Display Unit.

STEP TWO SYNCHRONISE UNITS

1)Press and hold the CHECK key 5 seconds on the rear of the CRT3000 Transmitter until the red LED flashes.
If you are using PIT3000 Transmitter, press [SET] button at the front side of PIT3000 until the red LED flashes.
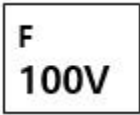

2)Check the [CHANNEL] key located on the bottom right hand side of the SEM3000 Display Unit is showing. If not, Press [MENU] key to change [SET] -> [CHANNEL]. Press and hold the [CHANNEL] key 3 seconds, Release the [CHANNEL] key on hearing a short beep.

3)Now you can see below symbol NOW ENERGY screen on Tope left side.

4)After synchronization, the screen display as below: If your are using 120V, please change it with [UP][DOWN] key.

F
100V

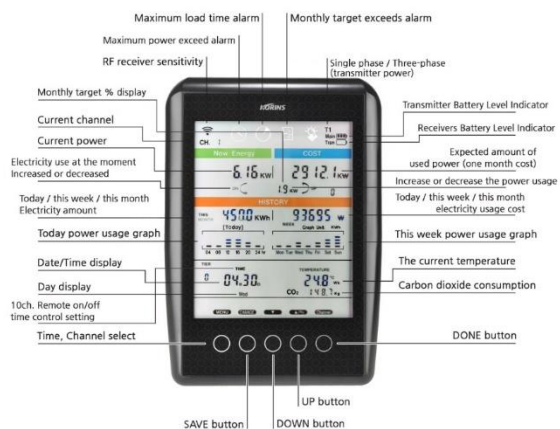5)Press the [CHANGE] key of Display unit for to store.

  The radio wave icon, in the top left hand corner of the main screen, will show radio wave power strength.

The two units will now connect. Please note, this may take up to 2 minutes. Once connected the radio wave icon in the top left of the screen will be fully illuminated and a "0" will be displayed in the main display.

You can position the Display Unit up to 40 meters away from the CRT3000 Transmitter (subject to building construction).

STEP THREE PROGRAMMING

YOUR DISPLAY UNIT HAS 6″ SCREEN WITH 5 SECTION.

The top section shows Radio Icon, Channel number (1-10), 4- different Alarm Display and Battery power strength display for transmitter and receiver each.

2nd section displays Now Energy with Watt unit and 1 Month estimated Cost with ₩, $, €, ¥, £ currency symbol mark.
Additionally it also shows Up, Down symbol mark and the energy increase and decrease difference on every 6 seconds.   Additionally it also shows the energy consumption percentage (%) vs monthly target.
Top left side shows the energy billing method selection from "0" to "2".   "0" is the single tariff rate selection. "1" is tiered tariff rate selection "2" is time-base tariff selection.

3rd section shows History data like this day, this week and this month accumulated energy consumption in kWh. The right hand side, it shows the actual energy cost of it with currency symbol mark.

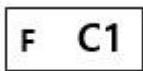Underneath of it, it shows today graph and this week graph simultaneously.

4th section shows channel number, time, date, week, month and year display. The right hand side, it shows temperature (°C. °F) and CO2 emission display.

5th section shows keys. . You will hear a short beep every time you press one of the keys, [MENU], [CHANGE], [DOWN], [UP], [CHANNEL] and [SET]. We recommend you use the sound to help you program the settings accurately.

A. TIME/CLOCK: [C1]

1)Press and hold the [MENU] key until you hear a beep. [SET] icon will appear in bottom left hand corner instead of [CHANNEL].

2)Press [SET] key 3 seconds and you could see below symbol on NOW ENERGY:

F   C1

3)Press [SET] key to see [F] [YEAR] blinking. Press [UP][DOWN] key to adjust the correct [YEAR] and press [SET] to confirm.
4)[MINUTE] is blinking. Press [UP][DOWN] key to adjust the correct [MINUTE] and press [SET] to confirm.
5)[HOUR] is blinking. Press [UP][DOWN] key to adjust the correct [HOUR] and press [SET] to confirm.
6)[DAY] is blinking. Press [UP][DOWN] key to adjust the correct [DAY] and press [SET] to confirm.
7)[MONTH] is blinking. Press [UP][DOWN] key to adjust the adjust [MONTH] and press [SET] to confirm.

8)Press [CHANGE] key to store.
9)Press [MENU] to change [SET] -> [CHANNEL]

B. TARIFF SELECTION: [C2]

1)Press [MENU] key for to change [CHANNEL] -> [SET]
2)Press the [SET] key 3 seconds to see [F] [C1] symbol. Press [MENU] key once to change [C1] –> [C2].
3)Press [SET] key to see [F] blinking to see [0].   Press [UP][DOWN] key to select [0] -> [2]   .
 [0]: Single Rate (Flat Rate), [1]: Tiered Rate, [2]: Special Rate
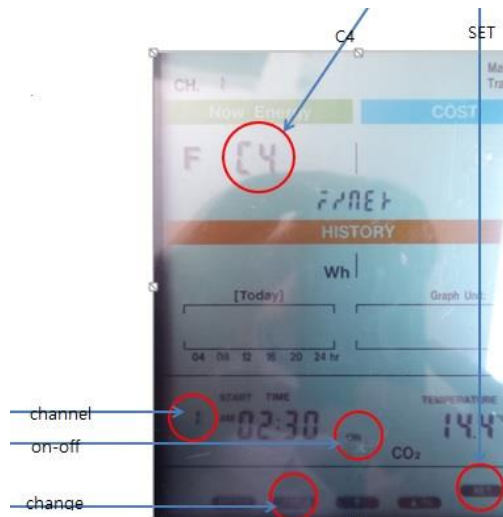4)Press [CHANGE] to go normal display

C. TARIFF RATE FOR SINGLE (FLAT) RATE: [C3]

1)Press [MENU] key for to change [CHANNEL] -> [SET]

2)Press the [SET] key 3 seconds to see [F] [C1] symbol. Press [MENU] key twice to change [C1] –> [C3].

3)Press [SET] key to see [F] blinking.   Press [SET] key again to see Single (Flat) rate on COST screen.

4)Move cursor to proper position using [MENU] key.

5)Press [UP][DOWN] key to adjust the correct value.

6)Press [MENU] to move next position and adjust the correct value. Change all the correct value continuously.

7)Press [CHANGE] to store.

D. ON-OFF & TIMER CONTROL SETTING: [C4] : This function is under development now.

EXAMPLE: If you want to control CHANNEL 2 (TV), with off-time setting as [AM 09:00 - PM 18:00]

1)Press [MENU] key for to change [CHANNEL] -> [SET]

2)Press the [SET] key 3 seconds to see [F] [C1] symbol. Press [MENU] key 3 times to change [C1] –> [C4].

3)Press [SET] key to see [F] [C] blinking. Press [UP][DOWN] key for select [CHANNEL 2].

4)Press [SET] key to see [HOUR][OFF] is blinking. Press [UP][DOWN] key to adjust the correct value of [AM 09 HOUR] and press [SET] key to adjust the [00 MINUTE]

5)Please select [ON] key by using [UP][DOWN] key to program on-time start.

6)Press [UP][DOWN] key to select [PM18:00] and press [CHANGE]

*This function is not useful Japan & USA Version.

E. VOLTAGE SETTING: [C5]

Your default setting is 230 Volts.

1)Press [MENU] key for to change [CHANNEL] -> [SET]

2)Press the [SET] key 3 seconds to see [F] [C1] symbol. Press [MENU] key to change [C1] –> [C5].

3)Press [SET] key to see [F] blinking.   Press [UP][DOWN] key to adjust the correct voltage.

If the required voltage is 220V, it will show [AUTO] V.

4)Press [CHANGE] to store.

*If you are using Channel 2 – 10 with PIT3000, Your CRT3000 Channel (e.g. No.1) will get the Voltage value from PIT3000 automatically when you set the Voltage as [AUTO]..

F. TARIFF RATE FOR TIERED RATE: [C6] : This function is under development now.

Your display unit can be programmed with up to 6 different tariff settings, to allow for different tariff rates according to time and/or days of the week.

1)Press [MENU] key for to change [CHANNEL] -> [SET]

2)Press the [SET] key 3 seconds to see [F] [C1] symbol. Press [MENU] key to change [C1] –> [C6].

3)Press [SET] key to see [F] blinking.   Press [SET] key to see Base Cost on COST screen.

4)Move cursor to proper position using [MENU] key.

5)Press [UP][DOWN] key to adjust the correct value of lowest position.

6)Press [MENU] to move next position and adjust the correct value. Change all the correct value continuously for [BASE].

7)Press [SET] to change [BASE] -> [THRESHOLD]

8)Press [SET] to change [THRESHOLD] -> [BILLING RATE]

9)Press [CHANGE] to store.

G. PEAK VALUE SETTING: [C7]

Your default setting is 1500W.

The alarm function is designed to warn you when your pre-determined electricity usage peaks above a specified rate. This is useful if your household is running on a budget and you need to monitor costs closely.

1)Press [MENU] key for to change [CHANNEL] -> [SET]

2)Press the [SET] key 3 seconds to see [F] [C1] symbol. Press [MENU] key to change [C1] –> [C7].

3)Press [SET] key to see [F] blinking.   Press [MENU] [UP][DOWN] key to adjust the correct wattage (W).

4)Press [CHANGE] to store.

H. MONTHLY KWH TARGET SETTING: [C8]

Your default setting is 300KWh.

This is useful if your household is running on a monthly budget and you need to monitor costs closely.

1)Press [MENU] key for to change [CHANNEL] -> [SET]

2)Press the [SET] key 3 seconds to see [F] [C1] symbol. Press [MENU] key to change [C1] –> [C8].

3)Press [SET] key to see [F] blinking.   Press [MENU] [UP][DOWN] key to adjust the correct wattage (W).

4)Press [CHANGE] to store.

I. ERASE THE KWh MEMORY (FACTORY DEFAULT SETTING): [C9]

1)Press [MENU] key for to change [CHANNEL] -> [SET]

2)Press the [SET] key 3 seconds to see [F] [C1] symbol. Press [MENU] key to change [C1] –> [C9].

3)Press [SET] key to see [F] blinking.   Press [MENU] [UP][DOWN] key to adjust the correct number [0] ->[1]

4)Press [CHANGE] to store. It takes 20 seconds.

5)if you do not want to erase the kWh memory, please change [1] -> [0] and press [CHANGE].

J. CURRENCY:

Your default setting is £pounds sterling. This will display the cost of your energy consumption in your chosen currency.

Press the SET key again if you wish to choose a different currency. Your options are €, $, ¥, ₩. Press ADJUST or MODE to choose the correct currency. Press SET to confirm.

(The function is under development now.)

K. TEMPERATURE:

Your default setting is Centigrade, shown as °C. You can choose to display the temperature in Fahrenheit, shown as °F.

1)Press [MENU] key for to change [CHANNEL] -> [SET]

2)Press the [SET] key 3 seconds to see [F] [C1] symbol. Press [MENU] key 3 times to change [C1] –> [C2].

This function is under development now.

L. GREEN HOUSE GAS UNITS:

Your SEM3000 can calculate the amount of CO_2 emissions per unit of electricity used.

Existing setting: 0.42kg/kwh

M. TO REVIEW YOUR SETTINGS

1)Press [MENU] key for to change [CHANNEL] -> [SET]

2)Press the [SET] key 3 seconds to see [F] [C1] symbol. Press [MENU] key to scroll through your settings [C1] –> [C9].

3)After review all the settings, press [MENU] to change [SET] -> [CHANNEL]

STEP FOUR LOCATE OUTGOING CABLE

Identify live outgoing supply cable to electricity meter (usually grey, red or brown and located on the right as you look at the meter).

Unclip the Sensor and fit around live cable. Snap the clip shut to fasten securely in place (see the images to the right).

Please Note: It is normal for the sensor to be loose fit or be able to slide along the cable.

STEP FIVE FIT THE TRANSMITTER

Fix the mounting bracket (optional) to the wall or the baseboard used to mount your meter, next to the fuse box or nearby.

Slot the Transmitter into its bracket and connect the Sensor cable to any one of the three Transmitter sockets, located on the base of the unit.

The photograph on the right shows a typical installation, with the Transmitter mounted on it's bracket to the right of the meter and the Sensor fitted around the live electricity cable (usually grey, red or brown).

CONGRATULATIONS

You have now set up and installed your SEM3000 successfully. For Troubleshooting and additional information please turn over this sheet or visit www.smartwattmeter.com

SAFETY INFORMATION

Keep the equipment out of the reach of children, especially infants.

Installation of this product must be carried out by adults only and if there is any doubt, a qualified electrician.

Do not install your equipment in a humid room (bathroom, laundry, kitchen etc.) or in close proximity to a tap or water source. Do not expose the equipment to moisture, splashes or spray.

The equipment and all associated components are for indoor use and in normal temperature conditions only. Avoid extreme temperatures. Store away from sources of heat, ignition or fire.

Do not attempt to open, disassemble or repair the equipment, other than to change the batteries.

The equipment contains a radio transmitter, which may affect the operation of medical or emergency equipment. Before using this equipment in a medical environment, always seek the advice of a qualified medical expert.

The LCD screen is made of glass and may break if dropped.

Please take special care when handling a damaged Display screen, as the liquid crystals may be harmful to your health.

Do not cover the ventilation holes on the equipment.

Please ensure you read this Installation and Programming Guide carefully before using the equipment.

If OWL+USB is used in a manner not specified by 2 Save Energy Ltd, the protection provided by the equipment may be impaired.

Korins Inc.

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Tel: +82-31-777-1588   Fax: +82-31-777-1587   hyh@korins.kr   www.smartwattmeter.com

WARRANTY INFORMATION

Korins Inc. guarantees that the SEM3000 will work for a minimum period of 12 months from date of purchase and that it will be free from defects in materials, workmanship or design. If during this limited 1 year period of guarantee,

from date of purchase, you find that the equipment is not working properly, you may return it to us and we will replace, or, (at our discretion) repair it, free of charge.

Korins Inc. will not accept any liability for defects arising from fair wear and tear, accidental or willful damage, misuse or failure to follow product or safety instructions.

If you return any equipment as faulty, Korins Inc. reserves the right to test the equipment and if found to be in perfect working order, to return it to you. In this event, Korins Inc. reserves the right to charge for any testing or postage costs incurred. This does not affect your legal rights relating to equipment, which is faulty.

Warranty conditions only apply where Proof of Purchase is provided.

To return your SEM3000 contact hyh@korins.kr to report the issue and reason for returning your product. Korins Inc. will issue you a form and reference number. Once we have received the completed form and proof of purchase we will commence the returns process.

COMPLIANCE

The CE marking certifies that this product meets the main requirements of the European Parliament and Council Directive 1999/5/EC. A copy of the signed and dated Declaration of Conformity is available on

Request.

Your Korins Inc. is manufactured under an ISO 9001 Quality Management System.

BEFORE YOU START
CHECK YOUR BOX CONTENTS

If something is missing, please contact us: hyh@korins.kr

Thank you for choosing the SEM3000.

Follow these simple steps to set up your SEM3000 and you will be able to:

Calculate the amount of power being used, the cost of that power, the amount of associated greenhouse gas emissions and download recorded data to your PC.

Before setting up your SEM3000, please ensure you carefully read the Safety Precautions.

Before you start installation please ensure you have:

1. An electricity bill with details of your tariff and rates

2. A small cross head or flat bladed screwdriver

TROUBLESHOOTING

ISSUE	POSSIBLE CAUSE	TRY THIS
Display is blank	Batteries	Check they are correctly installed or replace batteries
"0" is displayed	No current detected	1. Check Sensor is correctly attached to and closed properly over Live cable (SEE STEP 5) 2. Check Sensor is connected to Sender
"•""----" are displayed	Batteries or lost synchronization	Check batteries are correctly installed or replace batteries or start full reset process.
Readings appear high	Tariff or voltage settings may be incorrect	Check your tariff and voltage settings (see overleaf) and reset if necessary
Readings appear low	Sensor not closed properly	Although the sensor clip maybe closed, if it is a tight fit then the core may not close properly. Check the diameter of your cable (up to 10mm cable for standard sensors and 17mm for large sensor). Reposition the clip on a straight piece of cable.
"----" in display	Display Unit & Transmitter have lost radio link and repeating STEP 2 synchronize units has failed	See [STEP 2] for the pairing resetting.
Synchronization fails in STEP 2	In the unlikely event that synchronizing fails you will need to reset your OWL back to factory settings and clear the unit's memory by following these instructions:	

ADDITIONAL INFORMATION

USB RATING   5Vdc   50mA

INSTALLING SEM3000 IN A 3-PHASE SUPPLY

If you have a 3-phase supply you will need two additional Sensors and possibly larger sensors depending on the size of your cables. Fitting the sensors is the same process as above but you will need to identify the correct cables using the information below:

Installing SEM3000 in USA & JAPAN : We supply 2 clamps for 100V ~ 120V measurement.

3-PHASE WIRING CODES

	L1	L2	L3	Neutral	Earth
UK until April 2006	Red	Yellow	Blue	Black	Green/yellow striped (green on old installations)
Europe (include UK) from April 2006	Brown	Black	Grey	Blue	Green/yellow striped

If you are unsure about installation please consult a qualified electrician or visit www.theowl.com for more information

WHAT IS THE ALARM FUNCTION?
We have 3 different alarm display.

1)The alarm function is designed to warn you when your pre-determined electricity usage peaks above a specified rate. This is useful if your household is running on a budget and you need to monitor costs closely.
2)Monthly target setting over alarm. This is useful if your household is running on a monthly budget and you need to monitor costs closely.
3)Black out time alarm. This is useful for to support the power plant & government.

UNDERSTANDING TARIFFS AND TIERED TARIFFS

Electricity suppliers sell electricity at different rates to different people across the country. Rates may also vary at different times of the night or day. The rate you pay for your electricity is called a "tariff" and is clearly identified

on your electricity bill.

Some electricity users will have primary/secondary rates based on usage. To make use of this data you will need to calculate an average based on usage and enter this figure into tariff 1.

CAN I MONITOR APPLIANCE LEVEL?

The Sensor is unable to detect current flow when clipped an appliance lead with earth, neutral and live cables. The sensor will only work when clipped over a live phase cable.

HOW MUCH DATA CAN BE STORED ON MY SEM3000?

Data is stored for the last 1800 days as hourly value of electricity used, cost of electricity used based on Tariff rates entered for that day, and amount of CO_2 emissions based on conversion factor for that day. This data is accessible by connecting pc-cable and software.

Data is also stored every 6 seconds for the last 1 day and this is accessed using the automatic download function of the software application supplied with the Display Unit.

INSTALLING THE SOFTWARE APPLICATION TO DOWNLOAD THE DATA TO PC?

Please read the User Manual on the Software Application file supplied with SEM3000. Install the software following the installation guide in the user manual.

Follow the Getting Started section of the User Manual, to get the New Hardware installed, and to add the USB as a "Connected To" device in the software.

HOW DO I DOWNLOAD THE DATA TO MY PC?

Simply connect the port of the Display Unit to the PC with specially made mini-USB cable, and the last 30 days data (or number days data stored if less than 30 days) will automatically download to the software database.

HOW OFTEN DO I NEED TO DOWNLOAD THE DATA TO MY PC?

Data should be downloaded every 30days since last data download or sooner.

If 30 days is exceeded since last download, then the data for the days between the last 30 days and last download

of data will be overwritten in the monitor, hence there will be no data saved for those days in the database.

Rechargeable Alkaline Batteries can be used to operate your Display Unit only few days. Therefore please use AC power adapter mainly.

Please Note: If you are concerned or confused by the installation process please call customer services on _82-31-777-1588 or email hyh@korins.kr