User Manual
For Wireless Electricity Monitor RCS-S22A

Note to distributors: This user manual is our standard template. You may need to modify this manual according to your local market applications and the actual specification of your purchase order.

Thank you for purchasing this smart wireless electricity monitor. This guide will help you set up the wireless monitoring system quickly and easily.

What are included in the standard package?

Your package should contain:

1pc of Display Unit
1pc of Power Adapter for the Display Unit
1pc of 1-way Power Transmitter
1pc of 10mm Sensor Clamp
1pc of RJ45-USB Data Cable (3m)
as displayed in the right photo

and 1pc of the User Manual

The monitor can support up to 15pcs of 1-way power transmitters and each transmitter can support up to 3pcs of sensor clamps.

Display Unit 1pc

1-way Transmitter 1pc   Sensor Clamp 1pc

RJ45-USB Data Cable 1pc   Power Adapter 1pc
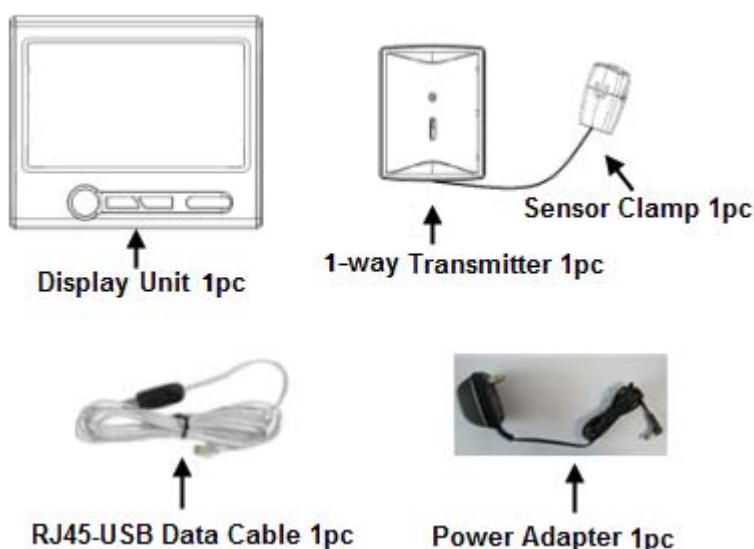
If you've bought extra transmitters and sensor clamps, please put them in appropriate place before installation.

If any parts are missing, please contact your seller immediately.

Before installation, please pay attention to following information:
1) Please read all instructions before you use the monitoring system
2) Please shake the Display Unit and the Power Transmitter first before installation. In case you hear any sound from inside of the part, please don't use it. Please replace it with your seller.
3) Do not allow children or people unfamiliar with these instructions to use your monitoring system.
4) Keep the monitor, transmitter and sensor clamp away from sources of heat, water or any other liquid.
5) Place the monitor, transmitter and sensor clamp where children can not touch or pull.
6) Don't try to disassemble or modify any parts of the monitoring system. In case of problem, please consult your seller or contact…..
7) Don't use the monitoring system if you find your electric wire in abnormal conditions, such as loose wire, exposed copper wire, burnt mark on wire insulation layer, holes on wire layer or damage on electric meter. In case of such abnormalities, please consult a professional electrician immediately.
8) Periodically check all wires and components to ensure there is no damage.
9) Use a dry cloth to clean. Don't use solvent, abrasive cleaners or water.

Technical Data

Model No.	RCS-S22A
System Type	Uni-directional (1-way)
LCD Screen Size (mm)	79*48.5
Portability of the Display Unit	Portable, with built-in battery
With DC Power Adapter	Yes
Wireless Transmission	Yes
Indoor Minimum Covering Distance (over partitions)	30m
Mounting Options	Desktop
PC/MAC Link	Yes, with RJ45 to USB data cable
PC/MAC Software	Yes
Compatibility with 3-phase	Yes
Supported coding channels	15 channels
Supported transmitter quantity	15pcs
Supported sensor clamps quantity	3pcs per transmitter
Sensor Clamp Diameter	10mm and 25mm optional
Transmitter Battery Life	2 years
Signal Interval	6 seconds / 120 seconds
Data Accuracy	≤5%
Displayed Cost Currencies	£, Euro, $ (this need to be fixed according to real order)
Customizable Voltage Range	80-265V
Maximum Input Current (under 220V)	50A or 100A
Minimum Input Current (under 220V)	0.1A
KW reading in real time	Yes
Cost Forecast	Per Hour/Day/Month
Display of CO_2 Emission	Yes
Memory function	Yes
KWH History Reading	Yes, 30 days Energy Consumption
Automatic Switching of Display Modes	Yes
Data Storage Capacity	2 years
Date / Time Display	Time Only
Indoor Temperature Display	Yes
Compatible with Economy 7	Yes
Over-voltage Alarm Indicator	No
Low-voltage Alarm Indicator	No
Over-loading Alarm Indicator	No

System Installation

Step 1: Attach the Display Unit to a power supply socket.

Pull out the clear plastic tab from the back of the Display Unit and use the power adapter to attach the Display Unit to a power supply socket nearby. After being connected to power supply, the LCD screen of the Display Unit will show as below photo.
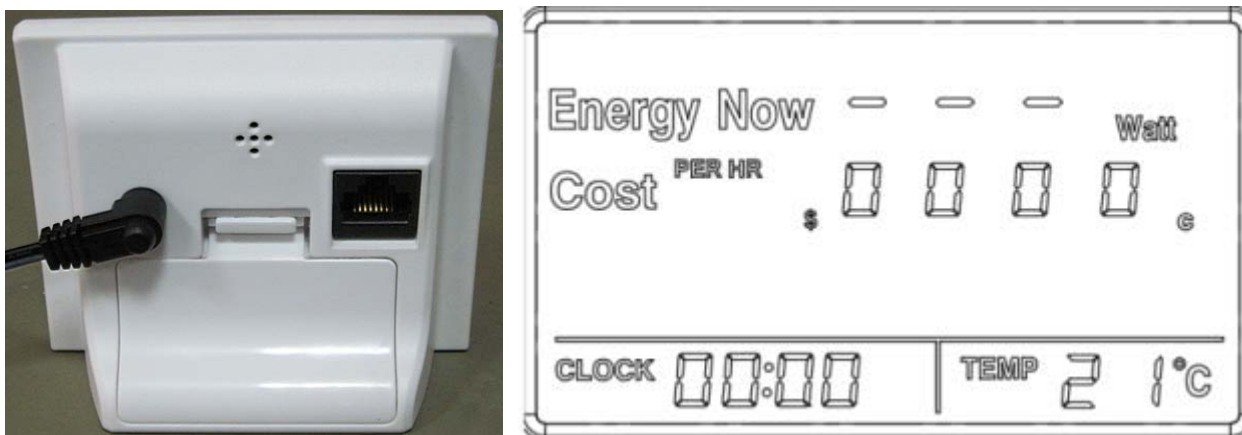

Now keep the Display Unit powered on at all times.

Step 2: Make the 1-way Power Transmitter start to work

Keep the Transmitter as close to the Display Unit as possible. Pull out the clear plastic tab (marked with "REMOVE BEFORE USING") from the back of the transmitter. The tab is an insulation sheet, once it is pulled out, the built-in batteries will make the transmitter start to work immediately.

Step 3: Pairing of the Display Unit with the Transmitter

When the Transmitter starts working, it will pair with the Display Unit automatically. Wait for 30 seconds, if the antenna icon appears on the top right corner of the LCD screen, it means that the pairing is successful.
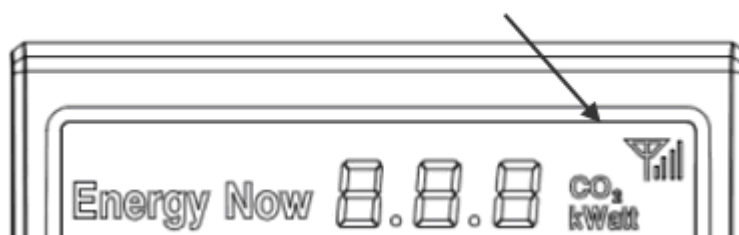

When the Display Unit starts to work together with the Transmitter, the screen will clear and the "Energy Now" value displayed on the screen will change from dashes to 0 Watt first. The monitoring system is now ready to work.

If the antenna icon does not appear and the "Energy Now" value remains as dashes, it means the pairing is not successful. In that case, please press the UP/DOWN key of the Display Unit first to choose the coding channel (CH01 to CH15) which is to be used for the transmitter, for example, in below photo, CH03 is chosen as the channel number.

Press the UP/DOWN key to choose the coding channel number for the transmitter

In this photo, CH03 is chosen as the channel number.

S22A can support up to 15 coding channels, that means it supports up to 15pcs of transmitter.
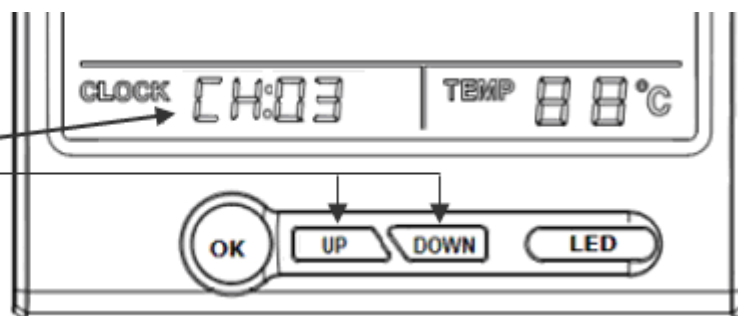
Let's start from CH01. Press the UP/DOWN key to choose CH01, then press the "DOWN" key and hold it for 3 seconds. Release the "DOWN" key when the antenna icon is flashing at the top right corner of the LCD screen. This means the Display Unit is ready for pairing.

Now use a slim stick to push into the pairing hole of the transmitter (as shown in below photo) and hold it there until the LED light of the transmitter flashes quickly. The transmitter is now starting to pair with the Display Unit.

LED Light

Pairing hole

Transmitter
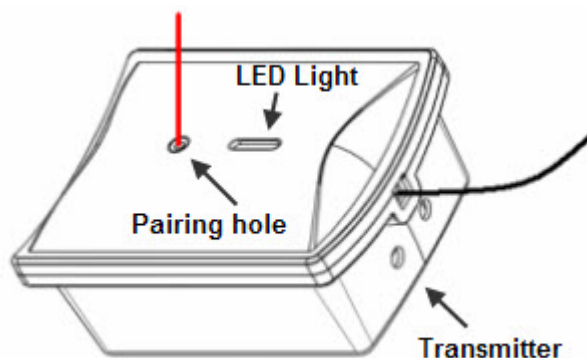
The pairing may take up to 40 seconds. When the pairing is successfully finished, the antenna icon stops flashing and stays on the top right corner of the LCD screen. The "Energy Now" value on the LCD screen will change from dashes to 0 Watt.

If the Display Unit and the Transmitter failed to get paired within 40 seconds, they will exit the pairing automatically. Please try pairing again.

If more 1-way Power Transmitters need to be paired, just choose different coding channel numbers first and repeat in the same way. Up to 15pcs of Transmitter can be paired with one RCS-S22A Display Unit.

Note: If more than one transmitter is to be paired, prepare a note and write down the channel numbers and their corresponding transmitters for future reminder.

Step 4: Installation of the 1-way Transmitter and the Sensor Clamp

The transmitter already has a sensor clamp together with it.

You may choose to put the Transmitter in a dry place near the monitored object or stick the Transmitter on the wall near the monitored object.

Fix the Sensor Clamp around the null line (also called zero line) or the live line of the monitored object, just as below photo is showing (Don't fix the clamp around the ground wire). Make sure to let the line pass through the clamp.

Note: The sensor clamp in the standard package is with a diameter of 10mm. For thicker cable, our 25mm sensor clamp is an option (as shown in below photo).

The Sensor Clamp immediately starts to sensor the current and the energy monitoring system starts to work. The LCD screen of the Display Unit should now display the electricity information of the monitored object in real time.
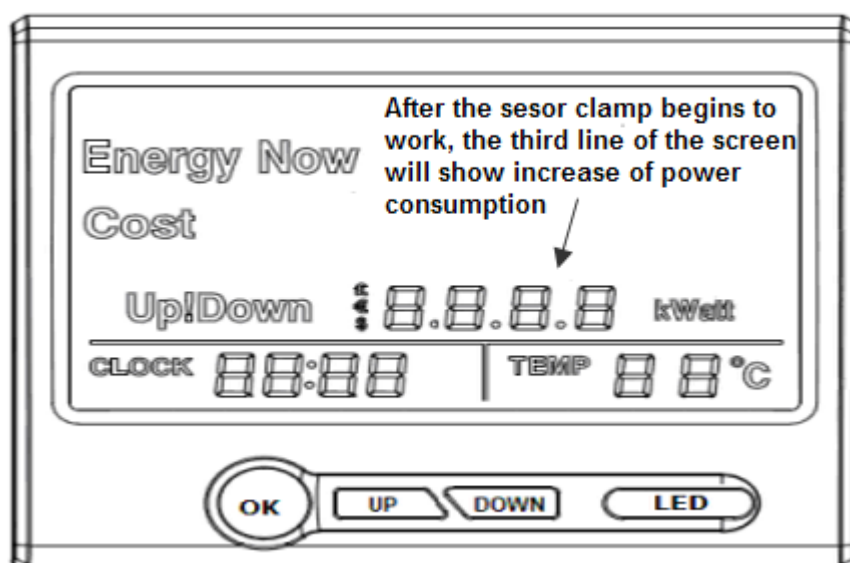

One power transmitter can support up to 3 sensor clamps which can be used for up to 3 different single-phase power supply or be used for 3-phase power supply.

3-phase power supply

If the monitored object use a 3-phase power supply. You need two more sensor clamps. Attach the DC plug of each sensor clamp into the DC sockets on the back of the Transmitter.

Fix the 3pcs of Sensor Clamps around the lines of Phase-A, B and C (Don't fix the clamps around the ground wire and neutral wire).
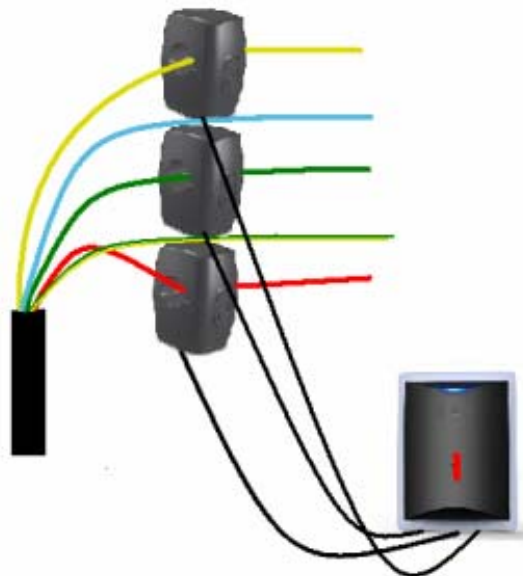

Note: Under single phase power supply, one transmitter can work on up to three objects by using 3pcs sensor clamps fixed around the null line or the live line of each object. In this case, the information displayed on the screen of the Display Unit for this transmitter is a total value of these three objects.

Settings and Functions of the Display Unit

After the Display Unit and the Transmitter have been successfully paired, we need to make some settings of the LCD screen so that we can get desired information from the Display Unit.

First have a look of below photo to get an idea of the meaning of each word and value for the Main Display Interface. The default Main Display Interface gives total information for all Transmitters connected with the Display Unit.
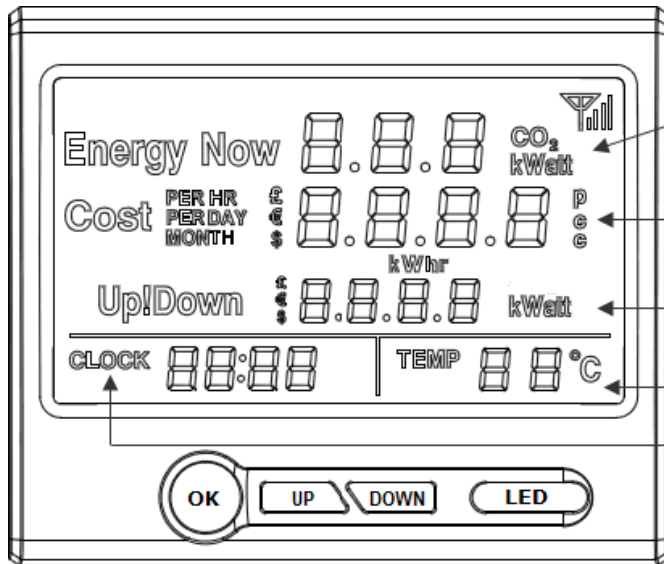
Display the current power under consumption and the corresponding CO2 emission alternately in an interval of 20 seconds.

Forecast electricity cost per hour, per day and per month alternately in an interval of 10 seconds based on current power being consumed

Display how much power will increase (UP) by turning on an appliance or how much power can be saved (DOWN) by switching off one appliance

Display the indoor termperature

Display the time

Resetting and Data Clearance

If the unit needs to be reset and the data needs to be cleared from the unit, please operate as below:

1) Cut off the power (pull the power adapter plug out of the display unit). Then press the UP key and DOWN key simultaneously and hold it there. Now attach the power adapter again to the display unit. The LCD screen will display as below photo:
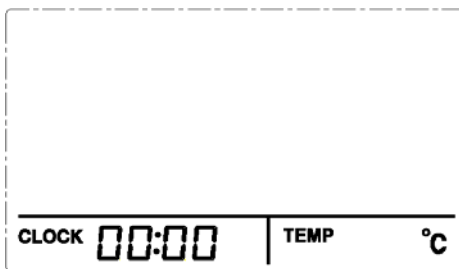
2) After the LED light flashes twice, release the UP key and DOWN key. The LED light will stop flashing and keep on. The LCD screen will display as below photo:
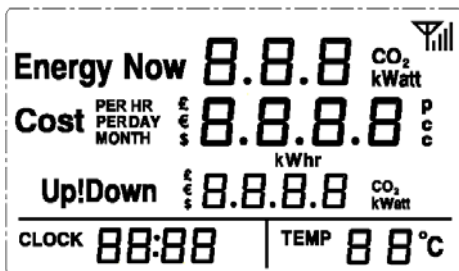
3) After above content is displayed, the LCD screen will switch to below content to show the programming version. Up to now the data clearance is finished. Please pull out the power adapter and attach it again to let the display unit run normally (without pressing the UP/DOWN key).
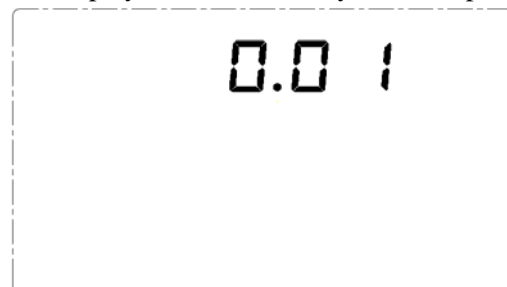
Coding Channels View

If more than one Transmitter is paired with the energy Display Unit, the Main Display Interface gives the total information of all paired transmitters. To view the information of a single transmitter, press the UP/DOWN key to tune into different coding channels for different Transmitters. The CLOCK value will accordingly change to display the channel numbers for all paired transmitters (from CH01-CH15). And the values on the LCD screen will immediately change accordingly to provide real time information for the tuned channels.

1) The "Energy Now" value displays the current power under consumption of the tuned transmitter.
2) The "Cost" value displays the total electrical energy consumption of the tuned transmitter in the past 30days
3) The "UP/DOWN" value displays the change of power.

After all available Channels have been viewed. The LCD screen automatically returns to the Main Display Interface.

Clock Setting

Press "OK" key and hold it for 3 seconds to enter into the time adjustment interface. First it is the HOUR value flashing, so press the "UP/DOWN" key to get the correct value for the hour. Then press "OK" key to switch to MINUTE value and use the "UP/DOWN" key to get the correct value for the minute. Press "OK" key to exit the setting. During the setting, if idle time of no operation is over 60 seconds, the setting will exit automatically without saving.
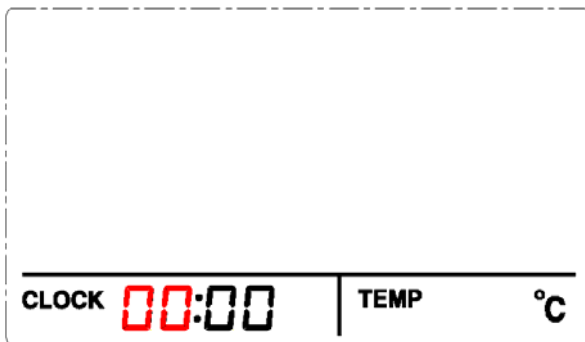
Please note that the clock runs in 24-hour mode.

History Accumulated Electricity Consumption

Press "OK" key and "UP" key at the same time and hold them for 3 seconds. The LCD screen will display the accumulated energy consumption as below photo.


Buzzer Setting

Press at the same time "UP" key and "DOWN" key and the LCD screen will display the Buzzer status. "bOFF" means the Buzzer is off. "bON" means the Buzzer is on. Press the "UP/DOWN" key to switch the Buzzer status.
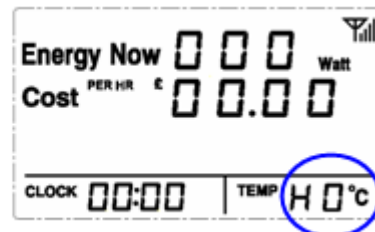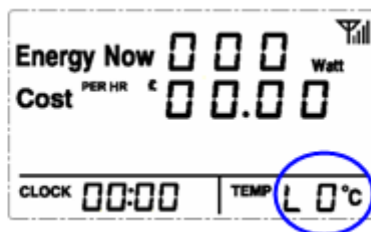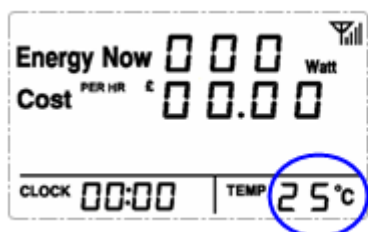
Press "OK" key to exit setting. If idle for 60 seconds, the setting will exit automatically without saving.

The Buzzer is used to confirm the successful pairing of the Display Unit and the Transmitters. It will sound a beep when pairing is successfully done.

```
     b O F F              b O n
```
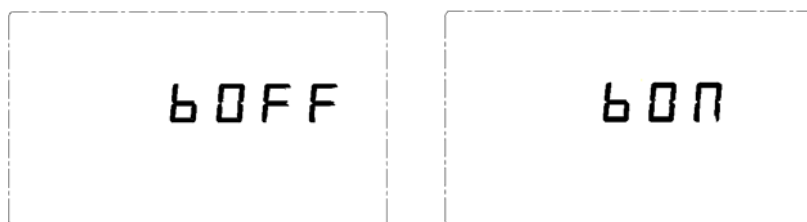
Temperature

The temperature that can be displayed on the screen is -9~50℃. For temperature under -9℃, the temperature will display as LO℃. For temperature over 50℃, the temperature will display as HO℃.

```
Energy Now  □ □ □  Watt          Energy Now  □ □ □  Watt          Energy Now  □ □ □  Watt
Cost  PER HR  £ □ □.□ □          Cost  PER HR  £ □ □.□ □          Cost  PER HR  £ □ □.□ □

CLOCK 00:00  TEMP (2 5℃)        CLOCK 00:00  TEMP (L O℃)        CLOCK 00:00  TEMP (H O℃)
```

Electricity Tariff Setting

1）**Currency Setting:** Press the "UP" key and hold it for 3 seconds until the currency symbol flashes. Press the "UP/DOWN" key to select your desired currency symbol. Press the "OK" key to confirm.

```
£ □ □ □ □ p      € □ □ □ □ c      $ □ □ □ □ c
```

2）**Tariff Setting:** After "OK" confirmation of currency selection, on the LCD screen the word "SET" appears on the bottom left corner and the number "00" flashes on the bottom right corner. Now you may choose to set up a single tariff or set up a multi-tariff (up to 3 tariffs):

```
     SET          00
```
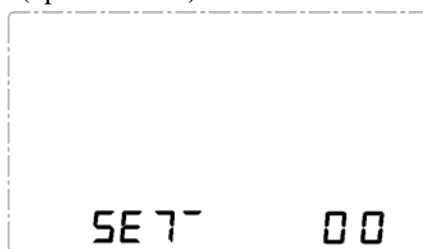
a) To set up a single tariff:
Press "OK" key first, the "COST" value (the second line of the main display interface) will flash. Then press the "UP/DOWN" key to get the correct digital and press "OK" key to set next digital until the complete tariff value is set. After that please press "OK" key to confirm and exit the setting.

```
     16.3 3 p

          00
```
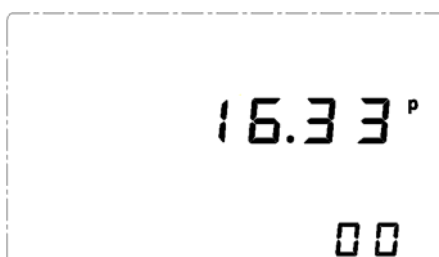
b) To set up a multi-tariff:
Press the "UP" key and the number "00" will change to "01". "01" stands for the first tariff to be set up. Press "OK" key and the "COST" value (the second line of the main display interface) will flash. Then press the "UP/DOWN" key to get the correct digital and press "OK" key to set next digital until the complete tariff value is set.
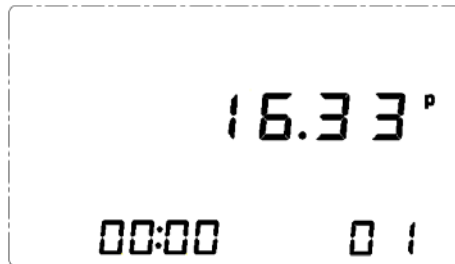
After the last pressing of "OK" key to confirm the tariff value, the "CLOCK" value will begin to flash. Now press the "UP/DOWN" key to set each digital and press the "OK" key to jump to next digital until you get the complete correct time for the Start Time of "01" period. The Start Time of "01" period is usually 00:00.

After the last pressing of "OK" key to confirm the Start Time of "01" period, "02" appears at the bottom right corner of the screen and the "COST" value will flash again. Now operate the same way to set up the tariff and Start Time for "02" period and "03" period. After "03" period complete setting up, the screen will return to the Main Display Interface.

Please note that the start time of "02" period is the end time of "01" period, and for the same reason, the start time of "03" period is the end time of "02" period. Three periods run in 24Hour circle.

If only two different tariffs need to be set up. The setting up process still need to go through "01", "02" and "03" periods accordingly, you need to choose two of the periods and set up the same tariff for them.

RJ45-USB Data Cable and SEMS Software

The RJ45-USB Data Cable and the SEMS software allow you to view your electricity consumption data on your computer. Please download the software here http://www.sailwider-smartpower.com/document/download.html. Before installation of the software, please read carefully the file help.chm. For the software (SEMS) of uni-directional (1-way) system, please read the section of "HELP_Uni_direx".

FCC STATEMENT

1. This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.