Energy Meter

Introduction

With the Energy Meter, you are now able to determine power costs of your power loads in the easiest way.

Proper use

The measurement range of the Energy Meter extends from 1W to 3680W. If values fall below or exceed these limit values, exact measuring are no longer possible. Furthermore the device could not be overloads, otherwise will be destroyed. It will alarm as the power is over loading.

The Energy Meter has been developed for monitoring and measuring electrical loads.

- Only power loads with a power supply of 230V AC 50/60Hz may be connected.
- The maximum power of whole connected load may not exceed 3680W (max. current 16A).
- Usage of the Energy Meter is only confined in the interior of a building and dry environments, whereas Usage in the open air is strictly forbidden!
- Always observe the declaration on the identification labels of connected power loads. Other using exceed the guided above may lead to damages to the product and other dangers like short circuit, fire and electric shock etc. The entire product may not be converted or modified! The safety instructions must be strictly obeyed.

Safety Instructions

- The manufactures will not assume any liability for damages to items or persons caused by improper handling or non-compliance with the safety notices! Any warranty claim will become null and void in such cases.
- It must be observed that the conductive ground wire is not broken as this can pose lethal danger in the event of a malfunction.
- This device is not a toy and does not belong to the hands of children.
- The commended operating temperature is between +5 to +40℃. High temperature, especially during measurement of large power loads, may lead to danger of overheating and can thereby permanently destroy the Energy Meter.
- Avoid operating under adverse environmental temperatures or near flammable gases, vapour and dust.
- For reasons of safety, never allow the device to be operated when in wet or in a damp environment.
- When cleaning or servicing, the device must be disconnected from every source of operating voltage. Condensers in the device may still be charged, even if the device was disconnected from all voltage sources.
- In schools, training facilities and self-help workshops, qualified personnel must supervise the operation of measure units.
- In commercial institutions, make sure you observe the accident prevention regulations of the commercial trade organization for electric installations.
- Do not insert any needless metals or other objects into the device.
- If the device shows visible damage, no longer works correctly, has been stored for a long period...
under unfavorable conditions or placed under heavy stress in transport. Or even it has been ascertained that safe operation is no longer possible, take the device out of operation and secure it against accidental reactivation.

Properties

- Display of current time (24 hours type), week, load power and current tariff.
- Display of total loaded time, total used energy and accrued energy cost.
- Dual programmable power tariffs with two time periods.
- Displaying power Blinks (fig4, the second line) if the load power is over 3680W.

Connection, operation settings

While you connect the Energy Meter to an outlet or power or power load, condensers in the device will be charged. Five minutes later, the condensers will have enough power to sustain the normal display of LCD. Then the current time and your desired power tariff can be set.

**Note:** you should take at least 12 hours to charge the condensers fully.

The procedure for entering the time and power tariff is described as following:

**A. The setting of current time and week**

1. Press “MODE” button for more than 1 second to enter into system setting, and then press this button again to enter the setting of the current time.
2. Press “ADD” button to increase the blinking value, contrarily press “DEC” button to decrease the blinking value. The value will be self-accumulated quickly while holding this button continually for more than 1 second.
3. Press “MODE” button to select next position.
4. After setting week, press “MODE” button, the system will enter into the second setting screen to set power tariff 1.

**B. The setting of power tariff 1**

1. Set the effective time of power tariff 1.
2. Set the value of tariff 1. (The value range is 0.0001-9.9999. It is cent/euro as unit, such as: € 0.0463)
3. Repeat the processes of the setting A step 2 and step 3.
4. Press “MODE” button, the system will enter into the next screen to set power tariff 2.

**C. The setting of power tariff 2**

1. Set the effective time of power tariff 2.
2. Set the value of tariff 2. (The value range is 0.0001-9.9999. It is cent/euro as unit, such as: € 0.0825)
3. Repeat the processes of the setting A step 2 and step 3.
4. Go on pressing the button “mode” until the display board of fig4 appears.
D. Press “ADD” and “DEC” simultaneously to delete all data (except current time and the week) after 1 second.

E. Press “RESET” button to delete all data (including current time and the week). Press “RESET” button to reset the system, if there is a vital error.

Introduction of display board
Three display boards are designed to display different figures, you can use “MODE” button to select which board you want to browse.

1. The initial screen on the power
Full screen displays persist for one second after plug in and electricity supplied.

2. Display current time (24 hours type), week, load power and current power tariff

After one second full screen, automatically display the first screen.
First line display current time: the factory setting is 12:00
Second line display load power: with no load shows 0W; when <100W, shows the range of 1.0-99.8W, stepping 0.2W; when ≥100W, shows the range of 100-4000W, greater than 3680W it flashes to prompt to alarm;
Third line display tariff rate, symbol is COST/H, (It is Euro/USD/cents as unit), the minimum is 0.0001, maximum 99999; if the range is not enough to truncate tail decimal to ensure that integer digital can be displayed;
The fourth line shows the week, from Sunday to Saturday polling.

3. Display load time of the measured device, total used energy and accrued energy cost
Press the MODE button to switch into the second screen display; the first line shows the running time of the load, the symbol is the ON / H, if less than 100 hours it shows "hours: minutes", such as 38:46, greater than or equal to 100 hours only hours can be showed, the maximum display value is 9999; the second line shows the load power consumption, display range 1.0-9999.9KWH, precision 0.1KWH; the third line shows the total price, symbols is COST, shows the range of 0.0001-9999.9, if the range is not enough to truncate tail decimal to ensure that integer digital can be displayed.
Technical parameters:

Rated voltage: 230VAC, 50/60Hz.
Max load current: 16A.
Rated power: 3680W
Power dissipation: \leq 1W
Max recorded time: 9999 hours.
Power display: 1.0-9999.9W
Energy display: 0.1kwh-9999.9kwh.
Cost display: 0.0001-9999.9cost

Notes:

This product is suitable for indoor use
Product can’t be used in stack, only a single use using it according with the technical parameters above
Neither load nor operation after 1 minute, the display change into screensavers
In screensaver mode, plug in the load to wait 5 seconds to display and refresh; under a load refresh every 5 seconds

Maintenance

- Using indoor only
- Only one Energy Meter can be used at the same time, plugging one socket into another one is not permitted.
- Regularly inspect the Energy Meter for damages
- For cleaning the device and LCD, only use a dry, soft cloth. Do not use any cleaning solvent.
- Never immerse the device in water
- Maintenance or repairs may only be performed by a technician who is familiar with associated regulations.

Declaration: if the equipment is used in a manner not specified by the manufactures, the protection provided by the equipment may be impaired.