# IC Card Electricity Sales Management System

## Summary

Pre-payment electricity sales management system is programed with VC++ and Power Builder language, considering the situations of electricity supply administrator and the functions of pre-payment electricity meters. The system is secure and reliable, friendly operating and has a clear structure. It is an effective promotion of prepayment electricity meters. The system has many functions, such as programming, selecting, recording, demand reseting, delete database, etc. There are two optional editions of the system: single-user system and multi-user system. It completely accords with the international standard IEC62053-21.

The system comprises of four parts:

a. Single/three phase prepayment meters

b. Eectricty purchase medium: IC card or Radio Frequency technology

c. Read/write machine

d. Electricity sales software.

## Operation and function

1. Power energy purchase

The meter can't operate without effective power energy. In other words, there should be power energy kept when the meter is expected to work. The sales power management department will record buy-energy information once the user purchases the power with the card.

2. Energy input

Inserting IC card into the meter, its correct direction is that the golden side contacts face to the place which is a narrow opening on the meter. The meter is reading the IC power card with showing [rd], the information will be showed in a second.

①XXXX: the meter reads information in the IC card and transfers the energy from the card into the meter, It shows XXXX kwh. (The power energy is effective.)

②Err: the meter have an error reading IC card, the reasons are :

a. Inserting IC card without operational side, please insert the card with operational side again.

b. the meter is affected sometimes, please insert the card again.

c. It is not the power energy card.( It is the wrong card.)

③OVEL: The power energy overflows in the meter, please wait for a moment and try again.

④8888: the IC card is RESER IC card. This process is done only by sales power management department.

3. IC card pull out

When this process is end up, you can pull out the IC card from the meter. You may consult the sales power department if there is any question.

4. Watt-hour measurement

When the meter is operating, the accumulated electricity quantity used increases progressively, whereas the remained available electricity quantity decreases progressively. The accuracy is 0.1 kwh.

5. Watt-hour display

The meter shows the informations on 4 bit LED, the max limitation is 9999kwh, which does not include decimal.

When the meter is operating, the LED shows two articles of the information, one is "AXXXX", in which, the XXXX means available electricity remained. The other one is "U XXXX", in which the XXXX means used electricity.

6. Display warning

When LED shows "LXX", it means that remained electricity value is lower than warning electricity value. The warning electricity value can be set by sales power department.

7. Power cut-off warning

When remained electricity value is too low to cut the relay, the meter turns the relay off, then you can use any card (except the reset card) to reset it. But you should buy power energy at the sales power department.

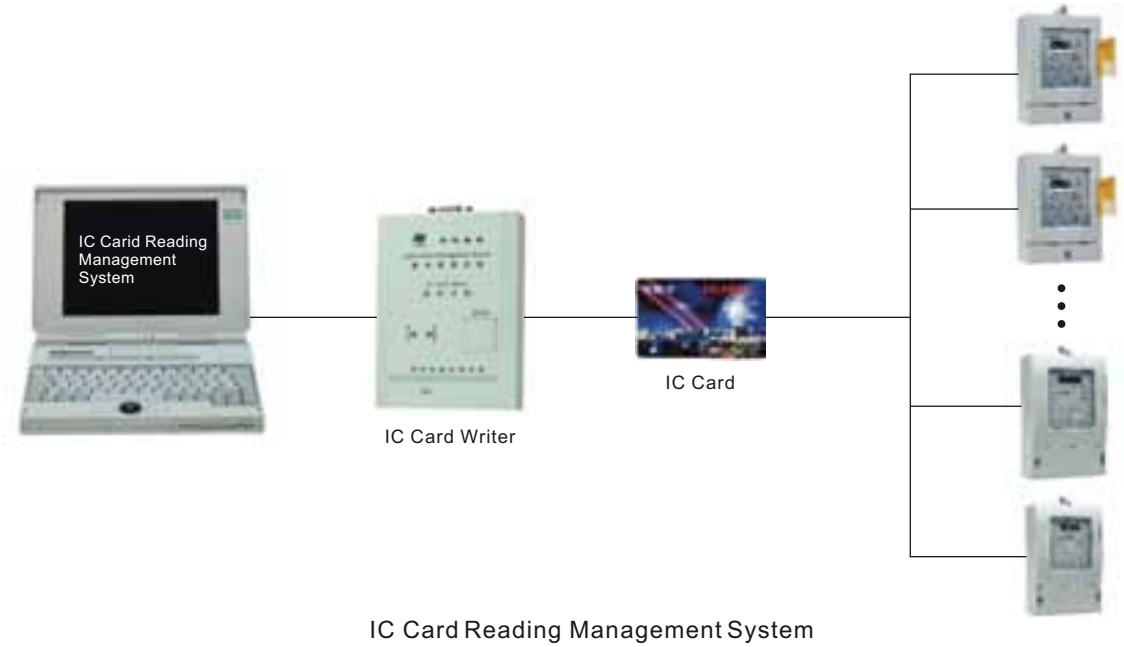
8. Load control

When remained electricity value is 0 kwh, the meter turns off automatically. When LED shows '-0' (or '-XXXX'), which means that the remained-electricity value is negative, and the relay should be turned off . If not , it is that the meter have error, please ask the sales power department for help.

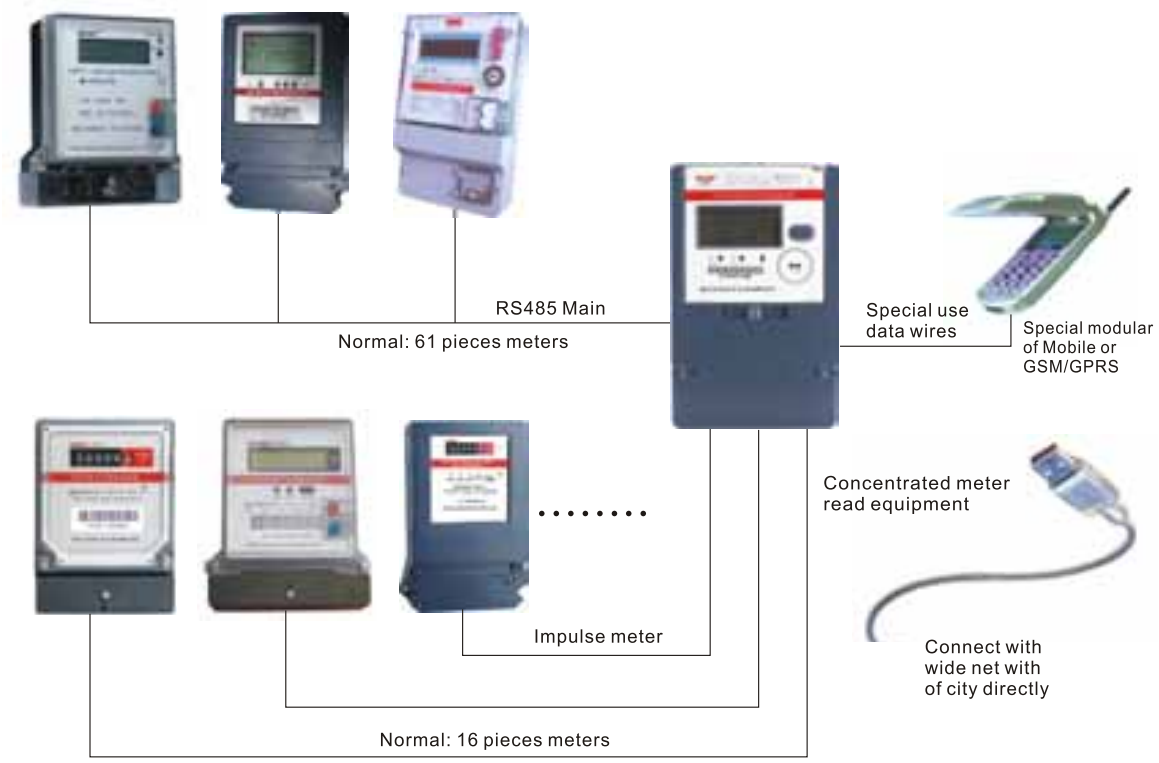
9. Overload control

When the LED shows 'OVLD', the current of the load circuit exceeds the value set (43A or 66A), the meter will automatically cut off the power supply, and then it will turn on again for another 2 minutes. At this moment, if you don't recharge the energy, the power will be cut off.

The products series have adopted the EEPROM solid IC technique to save data and various messages. It is unnecessary to change the battery. The data can be kept for 20 years.




IC Card Reading Management System




GSM/GPRS Automatic meter reading system (AMR)