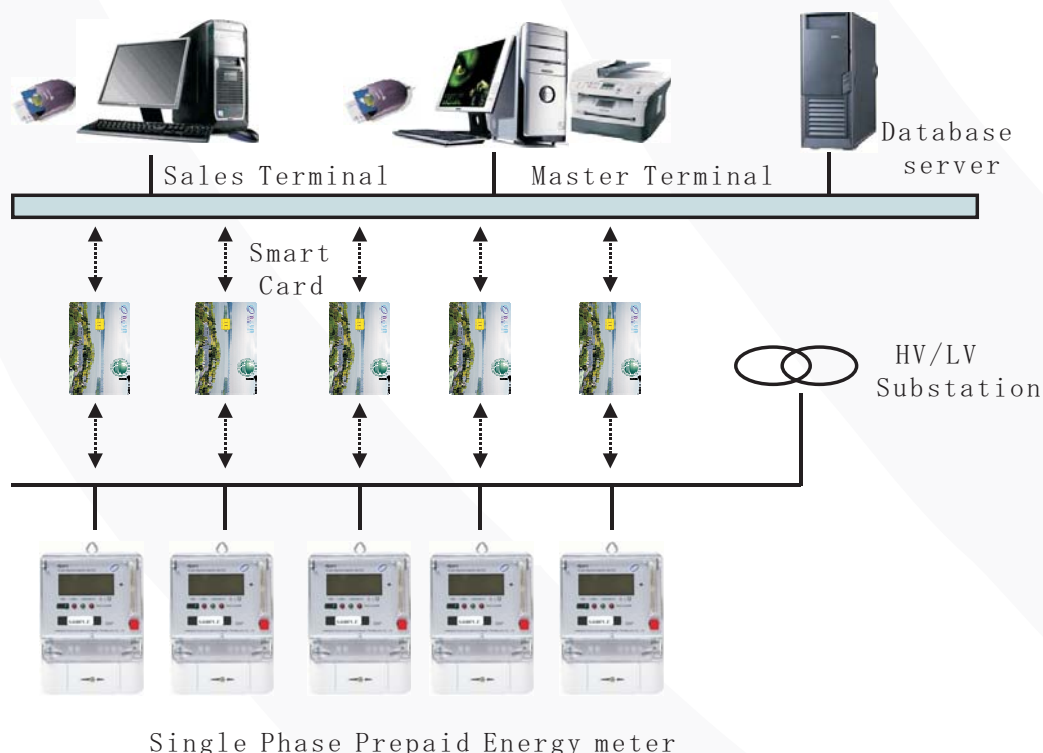# PREPAYMENT METERING SYSTEM OF ENERGY METER

Prepayment metering system is a new billing methodology that combining a superior electronic customer account management system, it integrate metering equipment and smart card technology, that provide a power utility a substantial saving both in manpower and money while providing new payment option for the customers. It reduces operational cost with paperless revenue collection system and can even replace any electromechanical meter in the market. In this system, the meter used smart card as the medium of communication with the customer, the utility and authorised charging station.

Infrastructure for single phase smart card prepaid meter system

Sales Terminal   Master Terminal   Database server

Smart Card

HV/LV Substation

Single Phase Prepaid Energy meter

PAX ELECTRICITY

SYSTEM GENERAL

The prepayment metering system consists of prepayment meter, IC card, energy sale management system. Prepayment meter records active energy. Customers, according to their demand, purchase a certain quantity of energy from the local electric power company. Management system with kindly man-machine interface, is easy to collect, analyze and store data. IC card is the medium between prepaid meter and energy sale management system.

METER FUNCTION

- The registration of active energy, not only cumulative energy, but also the remain purchased energy.

- Automatic disconnection -- when the available energy is exhausted, the power will be cut.

- Remain energy alarm, reminding customers of buying energy in time.

- Load control, protecting the circuit of power supply.

- Energy data and other information display on LCD.

- Optical and Rs485 communication port available.

- Data memorization during power outage.

- Cumulating latest purchased energy and remain energy in card.

- Recognition fake, one card corresponding to one meter.

- IC card interface protecting circuit against high electrostatic voltage and unauthorized hardware impact.

IC CARD SPECIFICATION

IC card enabling bidirectional data transferring, is used as a media between the meter and the energy sale management system, for communication between prepaid meter and the information transferring system. The data that is written by management system can be transferred to the meter, and vice versa, such as security data, metering data and credit data.

IC CARD FEATURES

- Security levels protection against fake and copy.

- Authentication against data write and read.

- Large storage capacity, as well as data rewriting and deletion.

- Offline usage, reduced communication cost

- Long life, anti-static and ultraviolet proof

Card types

Management card
- Relay test card: relay status test

- Inspect card: meter status record

- Test card: meter function test and parameters initialization

Customer card

- Registration card: New customer registration

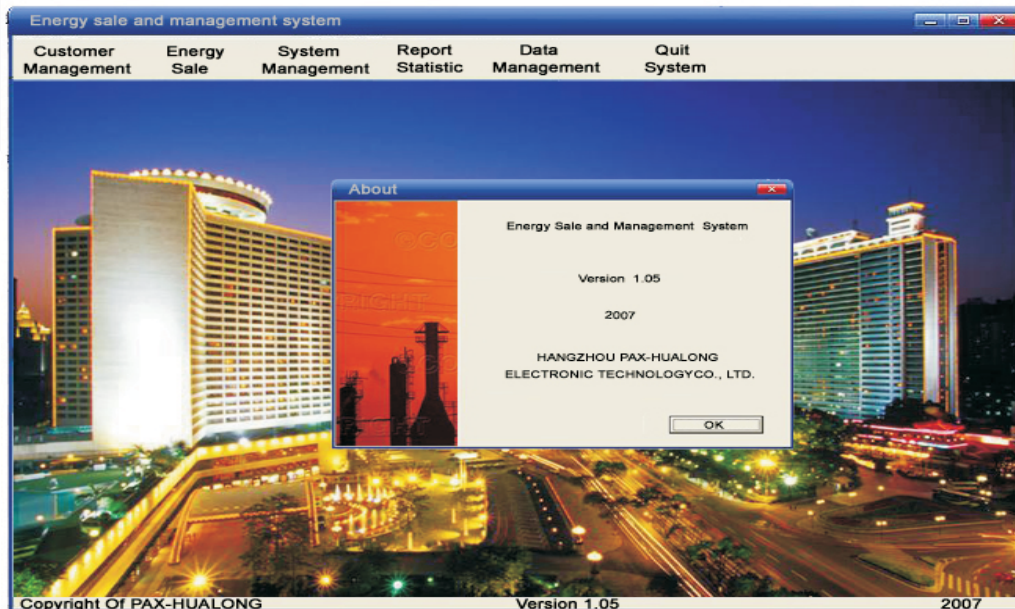- Credit card: transfer credit from energy sale department.

PAX ELECTRICITY

OPERATION FLOW CHART OF PREPAYMENT SYSTEM

Master Terminal

Sales Terminal

Database server

1
New Customer Registration

For new customer, the meter details and customer details are entered into the master terminal located ate the regional office.

2
Purchase credit

After registration at regional office, customer has to purchase credit at any sales terminal located at the authorized charging station. The credit value will be stored into the card

3
Meter initialization

After inserting the card into the meter, all information including credit and parameters will be automatically loaded

5
Data storage

The server is the "core" of revenue collection where all the back-end applications are managed and customers' information is continuously updated.

4
Metering data update

In case of each credit transaction, the meter writes status information, available credit, power consumption data, etc. to the smart card. With the IC card to purchase credit next time, the sales terminal will acquire all information and transfer it to the regional database.

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PREPAYMENT ENERGY SALE AND MANAGEMENT SYSTEM

FUNCTION:

Customer management: including new account opening, profile modification, account deletion and etc.

Energy sale Management: credit purchasing, information disposal.

Report analysis: according to customer's demand.

System management: Operator management, system parameter configuration.

IC card operation: initialization, read and write,

Data management: Query and analysis data based on daily, weekly, monthly, annually regulation.

Owing to periodical improvements of our products
The supplied products can differ in some details from the data stated in the prospectus material

Manufactured under a quality system approved to ISO9001