E5000-Revenue grade Dual source Prepaid Kwh meter
E5000-Revenue grade Dual source Prepaid Kwh meter

Salient Features

- RFID based CONTACTLESS smart card prepaid meter.
- Cost effective prepaid system.
- Wall mounting design.
- Dual source Measurement.
- Current Limiting Facility.
- Class 1.0 s Accuracy.
- Supports MODBUS RTU protocol on RS485.
E5000 offers a flexible and secure revenue management system using contactless smart card.

The meter meets the accuracy requirements of class 1.0.

Using this Prepaid meter, in conjunction with PC based vending stations, totally eliminates the costs associated with meter reading, bill generation, bill distribution and debt collection activities.

E5000 is RFID based CONTACTLESS Prepaid three phase energy meter.

Supports MODBUS RTU protocol on RS-485 port.

Through RS-485 port, user can read live data from the meter.

It consisting of three latching relays capable of cutting the power connection or supply to the load.

It has 3 LED indications, in which 2 LED are for Kwh and kVARh and 1 LED for ALARM/BUZZER indication.
E5000-Revenue grade Dual source Prepaid Kwh meter

Dual source Measurement & Current Limiting Facility

**Dual Source Measurement**

- Measures KWh, KVAh and KVARh from two sources like EB and DG.
- When on the alternate source Trips the load if current exceeds the desired limits.
- Reconnects Automatically after 60 seconds.

**Current Limiting Facility**

- Prevents Overloading / Tripping of DG set caused due to excessive drawing of power by consumers.
- No need of external current limiters.
Basic Functionality

- RFID based contactless smart card Prepaid meter, which has distinct advantages over the keypad that provides for parameter like Meter Address, Baud rate selection, etc.

- Collection of revenue before the utilization of electrical power.

- Loading the credit revenue into the meter.

- Security of transactions, bills and reports generation.

- As the credit value reaches a low level, an indication is provided on the display on meter by LED.

- At this point, the consumer is supposed to go to the vending station with his card and on payment of money, get it loaded.
E5000-Revenue grade Dual source Prepaid Kwh meter

How Prepaid meter works

The meter is loaded with the revenue credit by the consumer using the smart card provided by utility. This smart card is credited with money at the utility’s vending station.

E5000 has in-built latching relays between the input electrical supply and load side supply. For security purpose, before data transaction occurs, meter and tag will perform three pass authentication.

Each E5000 has its own Tag. Once, one Tag issued by VENDING SOFTWARE for each meter, then no one can replace that tag with dummy tag. If, somehow issued tag is lost, then only VENDING SOFTWARE can issue another tag.

Tag has its own memory so that it can store lots of data like credit, energy uses, tariff rates, trip limits and many more data.

At VENDING STATION, Tag type will decided whether to use Tag for normal customer or the Master Tag. Master Tag can change tariff in all meter. It can change Tariff type, Time base Tariff or KWH based Tariff.
E5000-Revenue grade Dual source Prepaid Kwh meter

How it will operate at Vending station

There is a bi-directional communication between E5000 meter and smart card, which tells the meter tariff rates to be applied, every time revenue credit is loaded into the meter.

Detection of Tag will be shown by LED blinks and Buzzer sound one. This indication will show that meter has read information from tag and updates its tariff type and tariff rate and all the necessary parameters.

Using this Prepaid meter, in conjunction with PC based vending stations, totally eliminates the costs associated with meter reading, bill generation, bill distribution and debt collection activities.

Once meter read tag, it will show Credit inside tag. If you press ENTER key, then it will show FREE CREDIT, if you still further press ENTER key, then it will show KW based Load Tripping limit, if it is programmed at vending station.

At this point, meter will show Flat tariff for DG. And also show tariff for programmable Time zones or KWH limits. This selection will be done at VENDING STATION.

VENDING STATION will decide that tariff should be Time Base or KWH Consumption based.

At the end, it will ask to load money inside meter.
## Display Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vrn =&gt; V1</td>
<td></td>
<td>Kw</td>
</tr>
<tr>
<td>Irn =&gt; I1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vyn =&gt; V2</td>
<td></td>
<td>Kva</td>
</tr>
<tr>
<td>Lyn =&gt; I2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vbn =&gt; V3</td>
<td></td>
<td>Kvar</td>
</tr>
<tr>
<td>Ibn =&gt; I3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EB-KWH =&gt; KWH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DG-KWH =&gt; KWH</td>
<td></td>
<td>Pf</td>
</tr>
<tr>
<td>EB-KVAH =&gt; KVAH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DG-KVAH =&gt; KVAH</td>
<td></td>
<td>Hz</td>
</tr>
<tr>
<td>EB-KVARH =&gt; KVARH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DG-KVARH =&gt; KVARH</td>
<td></td>
<td>Date</td>
</tr>
<tr>
<td>MD-KW</td>
<td></td>
<td>Time</td>
</tr>
<tr>
<td>DKW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD-KVA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DKVA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD-KW-DATE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD-KVA-DATE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD-KW-TIME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD-KVA-TIME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAL CREDIT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAL KWH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
E5000-Revenue grade Dual source Prepaid Kwh meter

Display LCD

Connection Scheme
The vending system maintains a database of the meter installations with customer specific details, sales history.

The vending software is secure with multi-level password protection.

A multitude of vending stations can be connected to a central server using various connectivity.

The central server maintains the master database and can generate MIS reports for all consumers or vending stations.
E5000-Revenue grade Dual source Prepaid Kwh meter

Meters Registration

New Meter Registration

[Image of a screenshot showing a software interface for meter registration]
E5000-Revenue grade Dual source Prepaid Kwh meter

Registration

New Customer Registration

New Card Registration
E5000-Revenue grade Dual source Prepaid Kwh meter

User Registration

User Registration (Login Account)

Card Recharge
E5000-Revenue grade Dual source Prepaid Kwh meter

Sales Batch Records
E5000-Revenue grade Dual source Prepaid Kwh meter

Applications

- Shopping Malls & Multiplexes.
- Residential Townships.
- Commercial Buildings.
- Multi-Hospitals.
- LT Industrial loads.
E5000-Revenue grade Dual source Prepaid Kwh meter

“One name that solves your
All Power & Energy Management Puzzles”
THANK YOU