

# Prepaid Energy Meter

For further enquiries Call 022-28548123



**Applications:**  
Micro grid  
Home utility  
Shops  
Generator supply

## Programmable Limits:

1. KWatt Hours  
Minimum :0.1 KWatt Hour  
Maximum:99.9 Kwatt Hour
- 2.Watt Limit  
Minimum :10 Watt  
Maximum:200 Watt
- 3.Real Time Clock  
Minimum :1 Day  
Maximum :No Limit

## Unique features

- User friendly interface for recharge
- Easy to install without any hassle
- Can connect upto 5 households.
- Real time load monitoring of each household.
- Tripping of load if the load exceed the permissible limit.

## Salient features:

- Compact design
- IP65 enclosure for outdoor mounting
- Hot swappable plugs for load n supply
- Inbuilt load limiter
- Field programmable

## Technical specs:

- Operating voltage Range: 150 – 260 Volts AC.
- Nominal Operating Voltage: 230V AC
- Power Consumption: 15 watt
- Max load per channels: 500 watts
- accuracy : Watt Hour <5%
- : Load Limit <5%
- : RTC < 5 min per month drift.
- Protection: Short circuit by 3 Amp fuse.
- Communication Range: < 10 meters.
- Programable Features: KWatt Hour Credit
- : Max Permissible Load in watts
- : Use for programmed No. of days.

## Quick Overview:

Electricity theft has emerged as a serious problem in power sector especially in microgrids. A huge amount of revenue is lost due to electricity theft. In some cases it is so severe that companies are making losses instead of revenue.

In present the revenue collection is made manually by moving to consumers location. There is no proper way to know the consumer's maximum demand, usage details, losses in the lines and power theft. If any consumer did not pay the bill, the operator needs to go to their houses and ask for money or to disconnect the power supply. These processes are repetitive and take so much time and labour.

Irya came up with the innovative solution for smartly controlling the load and collecting revenue by prepaid method. In the proposed method consumers houses are fitted with a prepaid energy meter and consumers pay in advance, in this way consumer can hold the credit and use the electricity until the credit is exhausted. The available credit is exhausted the electricity supply is cutoff by the meter.

## IPM05

IPM 05 is microcontroller based prepaid energy meter which is especially designed for solar ac micro grids. It has 5 channels and each of them can be programmed separately for desired watt hour credit, watt limit and number of days. Multi channel design allows to connect 5 different households using a single meter but measuring usage of individuals at same time.

Watt hours can be credited to individual channels. Each channel can be programmed for different watt-hour credit. Once the credit is finish it auto cuts the supply to that house.

IPM05 has a built in RTC so one can program it to allow usages of electricity supply for fixed number of days. Watt limit can be set so no one can use above the permissible watt limit. Current usages are monitored and if overload at any channel is detected it trips the supply for that channel. IPM05 is field programmable and can easily programmed by using a mobile phone or a hand held terminal. Each channel can be programmed individually for requested watt hours, watt limit or number of days. As skilled manpower is one of the challenge in microgrid operation, no skilled man power is required to recharge the meter, any one who is familiar with android phones and apps can do recharge and diagnostics of the network.