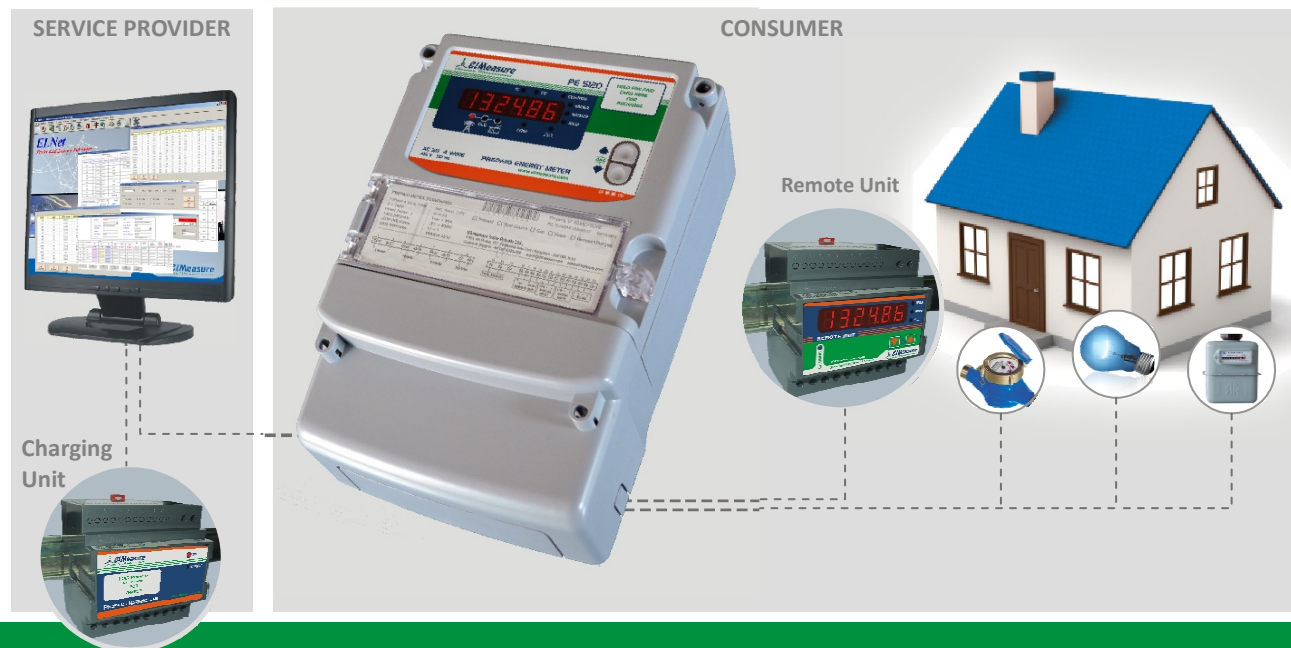


# Dual Source PREPAID ENERGY METER

Three in One Options (Electricity, Gas & Water)



Most power distribution companies face major challenges in recovering electricity bills on time. Horizon has developed a unique Contactless Prepaid Energy Meter which acts as a direct revenue interface between power Distribution companies and the consumers. Unique features Include:

- User friendly Contactless Prepaid Energy Meter Solution.
- Remote Display Unit allowing customer to recharge and monitor consumption
- Integration of Gas and Water with the electrical parameters thereby, extending the flexibility for the user to budget expenses.
- Tripping of EB or DG consumption at pre-determined set point for protection and effective use of energy
- History of consumption for analysis
- Direct current measurement up to 80A for Single or three phase measurements

## Features

- Compact wall mounting design
- Optional remote display unit
- Accuracy Class 1.0 IS13779
- Dual Source Measurement (EB & DG)
- Current Limiting facility for DG
- Advanced contact-less encrypted RF card technology
- Optional Gas and Water measurements
- Money based recharging, No separate EB and DG recharging
- Each smart card is tagged to the meter to prevent misuse

## Smart Card based Prepaid Metering

In prepaid metering system the consumer has to pay for the electrical power in advance. This helps the service provider with a positive cash flow and it also reduces the costs involved in billing, connection and disconnection cycle. The consumer is also benefitted as he can budget electricity expense and contribute towards energy conservation.

In a prepaid metering system the below points are to be addressed,

- Collection of revenue before electrical power is used
- Charging the meter with purchased units
- Decrementing the revenue based on the rate of electricity
- Alert the consumer when the credit balance reaches a particular value
- Disconnecting the electrical power when the credit reaches zero balance

## Application

Shopping complex / Residential layouts / Residential apartments / Employee quarters

## Single Phase Option

### Mechanical Specification:

Dimension Bezel: 160 × 112 mm  
(Depth 58mm behind bezel)



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## Prepaid Functions

- Advance collection of revenue before electrical power consumption
- Charging the meter with credit revenue through smart card
- The loaded revenue decrements based on the rate of electricity at that time (Currency. X / unit), which may change from time to time
- Provides visible and audible alarm to the user when the credit balance falls to a particular value at the meter as well as at the remote display unit
- Secured transactions, bill and report generation

## Dual Source Measurements

- Measures kWh from dual source like EB and DG
- Field programmable trip facility when the alternate source trips
- Overloading / Tripping of DG is prevented due to excess drawing of power by consumers
- Reconnects automatically after programmable delay time
- External current limiters not required

## Technical Specification

**Accuracy:** Class 1 (Default) IEC 61036, CBIP 88

### Sensing/Measurement:

True RMS, 1 Sec update time.

4 Quadrant Power & Energy (RD Option)

### Input voltage:

4 Voltage inputs (VR, VY, VB, VN)

Programmable 110 or 415V LL Nominal  
(Range 80 to 550V LL)

Primary Programmable up to 999 kV.

**Burden:** 0.2VA Max. per phase

### CT operated input current:

Current inputs (AR, AY, AB)

50mA - 6A (Field configurable 1A or 5A)

Primary Programmable up to 99 kA for CT operated one.

**Overload:** 10A max continuous, 50A max for 3 Sec. for 5A or

10 times basic whichever is lower

**Burden:** 0.5VA Max. per phase.

**Whole current operated:** 10 - 40A or 15 - 60A or 20 - 80A

**CT PT Ratio Max:** 2000 MVA Programmable

### Display Resolution:

1 row, 6 digits, (Integrated 6digits) 10mm

### Communication:

RS485 serial channel connection, Industry standard.

Modbus RTU protocol (RS232 optional).

**Baud rate:** 1200 bps to 19200 bps. (Preferred 9600 bps)

**Isolation:** 2000 volts AC isolation for 1 minute between communication and other circuits.

### Gas / water input option:

Factory configurable  
Digital input with Maximum Frequency 3 Hz OR Analog Input  
4-20mA or 0-20mA programmable at field or 1-10DC voltage

**Weight:** Unpacked: 1650 gms, Packed: 1850 gms

**Mechanical Specification:** for 3phase prepaid meter Dimension Bezel:

173 × 262 mm (Depth 82mm behind bezel)

**Note:** additional error of 0.05% of full scale for meter load below 5% of basic current