

# SINGLE PHASE ENERGY METER

R283 with RF



**R283** with RF is an advanced single phase static energy meter that has Radio Frequency (RF-433 MHz) communication capability. It is one of a kind product that conforms to various IEC and local utility standards. The meters allows automatic downloading of readings through Hand Held Unit (HHU), thus reduces operational cost and offers a transparent and error free system. It has comprehensive anti-tampering features including single wire operation. To offer highest level of flexibility, it can operate as a standalone product and be integrated with HHU that in turn transfers data to the backend server.

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## Features

- Built in RF Module with 433 MHz Communication Capability
- Measures MDI, kWh, Voltage, Phase and Neutral Current
- Efficient Meter Reading using HHU with Minimum Time
- RF Communication Status Indication
- Records Energy Accurately at Low/High Voltage
- Reading Display in Case of Power Outage/Failure
- Display Auto Scrolls After 5 Seconds
- Long Life, Clear, Wide and High Contrast Display with Broad Viewing Angle
- Impulse Output Displayed on LED for kWh for Field Testing
- Stores Previous Month Billing (kWh)
- Earth and Reverse Event Count with Last Occurrence Date and Time
- Low Battery Indication on LCD
- Current (I) Sensors are Provided on Both Neutral and Phase Wires to Record/Measure the Energy in Case of Different Tampering Conditions
- **Comprehensive Anti-Tampering Features** like Reverse Energy Flow Detection, Fan Dimmer Usage Detection and Magnetic Field Protection etc.

## Anti-Tampering Features

- When one of the input wires i.e. phase or neutral is disconnected or fan dimmer used to tamper the meter then Alarm LED on meter name plate lights up and segment of Earth Fault Detection "Erth" appears on LCD. In this condition meter keeps on billing by measuring the current flow with reference voltage and unity power factor.
- When meter's input and output are interchanged/reversed to tamper the meter, then Alarm LED on meter name plate lights up and segment of Reverse Energy Flow "Rev" appears on LCD, which indicate that the connection of meter are reversed. However, in this case the meter keeps on recording energy accurately.
- Protection against external influence such as strong Electromagnetic field, Radar magnet, CD drive, etc.

## General Specifications

- Reference Standards IEC 62053 -21
- Reference Specifications DDS - 65 : 2003
- Model Number R283 with RF
- Connection Wiring 1-Phase, 2-Wire
- Connection Configuration Direct Connected
- Display LCD type
- Display Resolution 7 Digits
- Temperature
  - ✓ Operating -25 °C to 60 °C
  - ✓ Limit Range of Operation (Extreme Condition) -25 °C to 80 °C
  - ✓ Limit Range of Storage -25 °C to 80 °C
- Relative Humidity Up to 95 %
- Storage of Data Non-Volatile Memory (EEPROM)
- Supported Frequency 433 MHz

## Electrical Specification

- Operating Voltage 240 Volt
- Basic/Max Current 10/40 Amp
- Reference Frequency 50Hz
- Accuracy Class 1.0
- Meter Constant 3200 imp/kWh
- Starting Current Less than 40mA
- Power Consumption
  - ✓ Voltage Circuit Less than 2W, 10VA
  - ✓ Current Circuit Less than 4VA (at basic current)

## Dielectric Strength

- Power Frequency Withstand 4 KV for One Minute
- Impulse Voltage Withstand 8 KV: 1.2/50 Micro Sec
- Short Time Over Current 1200 Amp for 10 ms
- Insulation Resistance More than 5 Mega Ohms
- Creepage Distance 20mm Minimum
- DC Magnetic Field 1000 Amp/Turns
- AC Magnetic Field 400 Amp/Turns

## Electromagnetic Compatibility/Disturbance (EMC)

- Electro Static Discharge IEC 61000 - 4 - 2
- Radio Interference IEC 61000 - 4 - 3
- Fast Transient Burst IEC 61000 - 4 - 4
- Surge Immunity IEC 61000 - 4 - 5

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VERITAS

ISO 9001:2000 Standards