

SINGLE PHASE ENERGY METER WITH DLMS/COSEM

R283_DTGC2K2M



R283 is an advanced GSM/GPRS based single phase multi rate tariff energy meter with built-in disconnect / reconnect feature. It is a unique product that comes with DLMS/COSEM certification enabling it to be an ideal candidate for a multi-vendor environment. To resolve energy theft prevalent in local market, R283 is carefully designed with stringent anti-tampering features. To offer highest level of flexibility, it can operate as a standalone product or be integrated with various data collection and energy management tools.

 **MicroTech**
Industries (Pvt) Ltd.

Redefining Technological Horizons

Features

- Complies to DLMS/COSEM Communication Protocol (Device Language Message Specification/Companion Specification for Energy Metering)
- Measures Active and Reactive Energy and Power
- On Demand and Scheduled Meter Reading
- Customized Automatic Meter Reading Options i.e. Hourly, Daily, Weekly, Monthly, etc.
- Long Life, Clear, Wide and High Contrast Display with Broad Viewing Angle
- Impulse Output Display on LED for kWh for Field Testing
- Display scrolling button (Up & Down)
- kWh Reading Display in Case of Power Outage/Failure
- Records Energy Accurately at Low/High Voltage
- Billing Data available:
 - ✓ Total kWh
 - ✓ Previous Month MDI (kW)
 - ✓ Current Month MDI (kW)
- Display Auto Scroll After 5 Seconds
- Indication of Events on LCD and Server:
 - ✓ Meter Open (Door Open Feature)
 - ✓ Power Failure
 - ✓ Reverse Energy Flow
 - ✓ Earth / One Wire Operation
 - ✓ Low Battery Indication
- Built-in contactor for remotely disconnection / reconnection as per IEC 62058-31
- Capable with Two Way Communication
- 3G Compliant Modem Integrated on PCB with Push, Pull and Plush Mode
- Meter Modem is able to Utilize SMS as Secondary Communication
- Meter Modem has Retries Feature till Successful Communication
- Power-Up of Meter Modem through all the Three Phases
- Remote Firmware Up-gradation
- Remote Change of Parameterization
- Load Limiting for Power, Current, Voltage, Power Factor. Alarms on Exceeding the Threshold Values.
- 2 Load Profiles of 9 Channels each with Date and Time Stamp and Configurable at Different Sampling Times e.g. 15 Min Interval for Load-Profile 1 & 30min Interval for Load-Profile 2
- Tamper reporting on External Magnet, Door Open for Meter and Terminal Block, Reverse Energy Flow, etc.
- Last Gasp Reporting
- Day Saving Option
- Support Distribution Load Analysis

Billing Record

Monthly reading for last 24 months of 4 tariffs and totals (TL) of the following:

- kWh
- kwahr
- Cumulative MDI (kW)
- Current Month MDI (kW)

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 (Current => 1 Amp) 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
- Model Number R283_DTGC2K2M
- Connection Wiring 1-Phase, 2-Wire
- Connection Configuration Direct Connected
- Display LCD type
- Display Resolution 6 digits
- Storage of Data Non-Volatile Memory (EEPROM)
- Supported Protocols DLMS/COSEM IEC 62056-21
- 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 %

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 10ms
- 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

Contactors for Remote Disconnect and Reconnect

- Meter will Accept Disconnect / Reconnect Command by Backend System Remotely in Case of Non Payment as and when required.
- Two numbers of Load Thresholds can Program against Different Time Slots for Load Limit.
- Meter can also Disconnect and Reconnect the Electricity in Case of Exceeding Sanction Load.
- Load Limit, Sanction Load and Time Interval between Disconnect and Reconnect Period is Programmable Remotely.

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BUREAU
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ISO 9001:2000 Standards