# STATIC 3-PHASE WHOLE CURRENT ENERGY METER

## DLMS/COSEM COMPLIANT

## R326_DTGC3K3



**R326** is an advanced static three-phase whole current (TOD / TOU) energy meter with built-in disconnect / reconnect feature. It is being used for residential and commercial connections. 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 the menace of energy theft prevalent in local market, R326 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.

## Features

- Fulfills IEC 62053-21 & 23, Accuracy Requirements
- Complies to DLMS/COSEM Communication Protocol (Device Language Message Specification/Companion Specification for Energy Metering)
- Built-in contactor for remotely disconnection / reconnection as per IEC 62058-31
- Measures Active and Reactive Energy and Power
- Load Profile Data Recording with Programmable Time Interval
- On Demand and Scheduled Meter Reading
- Customized Automatic Meter Reading Options i.e. Hourly, Daily, Weekly, Monthly, etc.
- Pulse Output Display on LED for kWh and kvarh for Field Testing
- Reading Display in Case of Power Outage/Failure
- Records Energy Accurately at Low/High Voltage
- Long Life, Clear, Wide and High Contrast Display with Broad Viewing Angle
- Display Scroll and MDI Reset Buttons
- Phase Indication (A, B, C) and Indication of Load with Blinking Circle Around the Respective Phase on LCD
- Low Battery Indication on LCD
- **Comprehensive Anti-Tampering Features** like Meter Opening Indication, Reverse Energy Flow Detection, Magnetic Field Protection etc.

## Billing Record

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

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

## Events Record

More than 20 different types of Events are available. Each event logging and storage of the last 50 occurrences with Date and Time Stamp such as:

- Power Fail
- Phase Fail
- Reverse Energy
- Over Voltage
- Over Load
- Under Voltage
- MDI Reset
- Door Open
- Contactor Status (On/Off)
- etc.

## Security Features

- The meter is protected against any loss of data and functional performance due to any external interference such as influence of CD drive, mobile phones and complies to all relevant IEC/ANSI standards.
- The meter is protected against the influence of strong magnetic field.
- Each meter has a unique serial number in its memory which can be displayed on the LCD.
- Identification and storage of reverse energy flow event with date and time stamp.
- Provides 2 Levels of Access /Security Codes.
- Meter Keeps on Operating with or without Neutral Wire.
- Over and Under Voltage Indication (↑↓)
- Demand Over Load Warning

## General Specifications

- Reference standards — IEC 62053 -21 & IEC 62053-23
- Reference Specifications — DDS – 60 : 2007
- Model Number — R326_DTGC3K3
- Connection Wiring — 3-Phase, 4-Wire
- Connection Configuration — Direct Connected (Whole Current)
- Metrology — Four Quadrants
- Display — LCD type

- Display Resolution — 7 Digits
- Temperature Range
  - ✓ Specified Operating Range — -25°C to 60°C
  - ✓ Limit Range of Operation (Extreme Condition) — -25°C to 80°C
  - ✓ Limit Range for Storage & Transportation — -25°C to 80°C
- Relative Humidity — Up to 95 %
- Storage of Data — Non-Volatile Memory (EEPROM)
- Supported Protocols — DLMS/COSEM, IEC 62056-21

## Electrical Specification

- Operating Voltage — 3×230/400V
- Basic / Max Current — 10 / 100 A
- Reference Frequency — 50Hz
- Accuracy Class
  - ✓ For Active Energy — Class 1.0
  - ✓ For Reactive Energy — Class 2.0
- Meter Constant
  - ✓ Active & Reactive — 1250 imp. / kWh
- Starting Current — 40mA
- Power Consumption
  - ✓ Voltage Circuit — Less than 2W, 10 VA
  - ✓ Current Circuit — Less than 4VA (at basic current)

## Dielectric Strength

- Power Frequency — 4 KV for One Minute
- Impulse Voltage — 8 KV: 1.2/50 Micro Sec
- Short Time over Current — 3000 Amperes 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

## Instantaneous Quantities Display

- Voltages — $U_1, U_2, U_3$
- Current with Indication of Direction — $I_1, I_2, I_3$ (⇄)
- Phase Indication — A, B, C
- Load Indication — Ⓐ Ⓑ Ⓒ
  (Blinking circle around the present phase)
- Active Power (kW) with indication of direction — $kW_1, kW_2, kW_3$ (⇄)
- Reactive Power Phase Wise — $kvarh_1, kvarh_2, kvarh_3$
- Apparent Power Phase Wise — $kVA_1, kVA_2, kVA_3$
- Power Factor by Phase — $PF_1, PF_2, PF_3$
- Meter Clock — Time, Date
- Tariff Indication — $T_1, T_2, T_3, T_4$
- Frequency — Fr- Hz
- Battery Voltage — btry-3.65V

## Load profiling

4 channel recording of load profile data with 30 min interval for 90 days, 60 min interval for 180 days and 24 hour interval for 12 years. Load profile data is stored in non-volatile memory (EEPROM).

## Contactor 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.