



**GEOTEL AFRICA**  
Consider It Done

## **GEO211L Cost-effective Single Phase Prepaid Electricity Meter**

The GEO211L is a low cost-effective single phase electricity meter that provides an integrated solution for kWh measurement and prepayment. It consists of two parts, MCU (Metering Control Unit) and a CIU (Customer Interface Unit).

A user simply purchases a token/credit from a selling platform – this could be from vendor paypoints or from the now common GSM based payment platforms and receives a 10 OR 12 digit numeric token, which provides for the total units (kWh) purchased, this token is generated using the Standard Transfer Specification (STS) encryption protocol by the power company and sent or issued to the user. The user then keys in the digits into a wall-mounted Customer Interface Unit (CIU) which communicates to the MCU (Metering Control Unit) using a non-polarized twin-core cable.

### **FEATURES:**

- STS compliant
- Keypad with audible and text feedback
- Adjustable audio and visual low credit warning levels
- Adjustable power limit
- Adjustable emergency credit allowance
- Automatic diagnosis of various faults include contactor fault, memory device --fault, etc.
- Significant Reverse Energy (SRE) detection
- Advanced tamper detection
- Easy switch between prepayment and post-payment option

### **OPTIONAL CONFIGURATION:**

- JOY111+CIU1 (2 wire communication)
- JOY111+CIU1 (PLC communication)
- JOY111+CIU3 (2 wire communication)

### **VOLTAGE & POWER SUPPLY**

- Nominal Voltage : 220/230/240V
- Operating Range: 70% to 130% of  $U_n$
- Frequency Range: 50/60Hz

### **EMC**

- Electrostatic Discharge: 16kV air discharge; 10kV contact discharge
- Immunity to Fast Transient Burst: 4kV
- Surge Immunity: 4kV or 6kV alternative

### **DISPLAY (ON CIU)**

- Credit balance
- Estimated days left
- Last recharge credit amount
- Total active power



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## CURRENT RATING

- Base Current (Ib): 5A
- Max Current (Imax): 80A

## STARTING CURRENT

- 4%Ib

## ACCURACY

- Class 1 (Class 2 optional)

## MAX WITHSTAND VOLTAGE

- 420V (48hr)

## INSULATION CLASS

- Insulation System
- Classification: Double insulation
- Insulation Level: 4kV rms for 1 minute

## SUPPLY BURDEN

- Voltage Circuit:  $\leq 2W/10VA@Un$
- Current Circuit:  $\leq 1.0VA@Ib$

## PROTECTION

- Overload Protection
- Tamper Protection: reverse power
- No-load Protection
- SRE Measurement

## OPERATING ENVIRONMENT

- Operating Temperature: -30 ~ 60
- Storage Temperature: -40 ~ 70
- Relative Humidity:  $\leq 95\%$ ; annual mean 75%
- IP Rating: IP51

## COMMUNICATION (Between MCU & CIU)

- Wired: Non-polarized 2 wire low voltage, over 200m
- PLC (power line carrier) communication, over 200m

## LED INDICATOR

- Pulse LED: 1000 imp/kWh
- Low credit
- Communication LED/Power Status

## BUZZER (ON CIU)

- Feedback on key press
- Token accept or reject
- Low credit alarm

## USER INTERFACE (ON CIU)

- 12 keys, international outlay standard keypad with 0-9 numeric key, backspace and enter key

## EXTERNAL INTERFACE

- Optical Port
- MC171 Type B

## DISCONNECTION DEVICE

- Internal Contactor

## TERMINAL

- Type: moving cage
- Maximum Cable Size:  $\Phi 8.5$  mm

## INSTALLATION

- MCU: DIN rail mounted
- CIU: free standing or wall mounted

## PRODUCT LIFE

- 15 years
- Data retained over 20 years

## WEIGHT & DIMENSION

- Weight : 300g
- Dimension: 123mm x 59mm x 59mm

## STANDARD

- IEC62055-31, IEC62055-41
- IEC62052-11, IEC62053-21, IEC62056-21
- SCSSCAA9(MC171)