

# CA168-L01

## Single Phase Keypad Electricity Meter

The CA168-L01 is a multi-function single-phase smart meter with embedded communication. The meter is used to measure electrical energy accurately for commercial and residential customers. The CA168-L01 can be applied to payment (STS compliant). The communication with an optional external keypad (customer interface unit CIU) can be done via power-line communication (PLC), radio frequency (RF) or by cable connection.



## Main Features

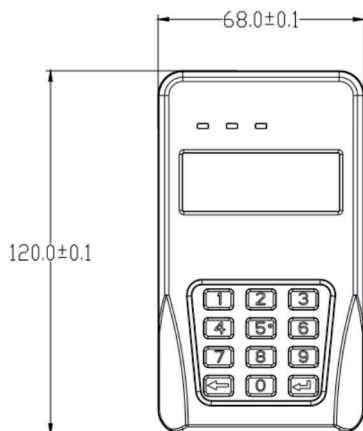
- SRE detection
- 20 digit STS encryption
- Tamper detection and record
- IEC62056-21 compliant optical port
- Double CT for Phase and Neutral line
- Disconnects on overload and no credit
- Support prepayment, credit mode and hot swap
- Programmable load limit and low credit warning



## Split Configuration for Increased Revenue Protection

The CIU (Customer Interface Unit) is optional. The MCU (Metering & Control Unit) and CIU is linked via Mbus 2 wires communication, galvanically-isolated PLC or RF wireless communication, the communication method is on request.

The CIU is installed within consumer's home, while MCU is installed in a meter cabinet away from consumers.



## ELECTRICAL PARAMETERS

### VOLTAGE

|                       |                |
|-----------------------|----------------|
| Nominal voltage $U_n$ | 230V           |
| Limited voltage       | 70%~120% $U_n$ |

### FREQUENCY

|                         |           |
|-------------------------|-----------|
| Nominal frequency $f_n$ | 50-60Hz   |
| Tolerance               | $\pm 5\%$ |

### CURRENT

|                              |                  |
|------------------------------|------------------|
| Basic current( $I_b$ )       | 5A               |
| Maximum current( $I_{max}$ ) | 80/100A optional |
| Starting current( $I_{st}$ ) | 20mA             |
| Active energy constant       | 1000imp/kWh      |

### MEASUREMENT ACCURACY

|                              |          |
|------------------------------|----------|
| Active energy to IEC62053-21 | Class1.0 |
| Burden                       |          |
| Voltage circuit              | <2W <8VA |
| Current circuit              | <1VA     |

### TEMPERATURE RANGE

|                 |             |
|-----------------|-------------|
| Operation meter | -25°C~+70°C |
| Storage         | -40°C~+85°C |

### INSULATION

|                                  |                     |
|----------------------------------|---------------------|
| Insulation level                 | 4kV rms 1min        |
| Voltage impulse withstand        | 8kV 1.2/50 $\mu$ s  |
| Insulation System Classification | Protective Class II |

### ELECTRO MAGNETIC COMPATIBILITY

#### ELECTROSTATIC DISCHARGES

|                   |      |
|-------------------|------|
| Contact discharge | 8kV  |
| Air discharge     | 15kV |

#### ELECTROMAGNETIC RF FIELDS

|                           |       |
|---------------------------|-------|
| 27MHz to 500MHz typical   | 10V/m |
| 100kHz to 1GHz typical    | 30V/m |
| Fast transient burst test | 4kV   |

### MECHANICAL REQUIREMENTS

|                                  |                     |
|----------------------------------|---------------------|
| Meter shell Protection Rate      | IP54                |
| Insulation System Classification | Protective Class II |
| Maximum cable size               | 8 mm                |

