

Technical Specifications  
of  
*Single Phase AC Static Utility Meter with EB/DG*  
*(SPUG101)*



240VAC, (10-60)A, Class 1.0S

(IS:13779)

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## General Specifications

### 1) GENERAL:

- Meter measures Active, Reactive, Apparent energy on 1 phase 2 wire system,
- Output LED are placed on front panel to indicate Power ON and KWh Impulse,
- 16X2 LCD with backlight feature are provided for indicating presence of voltage, Current and other parameters,
- Front Key is provided to stop, scroll and to view the display parameter,
- RTC with battery backup is used for time keeping and has a calendar of 100 years,
- Power Line Communication can be done using RS485 communication with MODBUS RTU,
- Conforms to standards IS13779 and other relevant standards depending on the configuration.

### 2) METER FEATURES:

#### 2.1) *Display Details:*

- Liquid Crystal Display (LCD) type – The parameters calculated by the meter are displayed on a custom built LCD.
- Selectable Parameters – Can select any out of 19 parameters.
- Scroll rate – The scroll rate of the display parameter scroll in steps of 4secs.
- A key is provided to stop the scroll to view the particular parameter.

#### 2.1.1) *Display Parameters:*

- Time,
- Date,
- Meter ID,
- Source Status EB/DG,
- Active Energy (kWh-EB),
- Active Energy (kWh-DG),
- Voltage (V),
- Current (I),
- Power Factor (p.f.) ,
- Frequency (Hz.),
- Power ON hour – EB,
- Power ON hour – DG,
- Load ON hour – EB,

- Load ON hour – DG,
- Instantaneous Active Power (KW),
- Instantaneous Reactive Power (KVA<sub>r</sub>),
- Instantaneous Apparent Power (KVA),
- Maximum Demand - EB (KW),
- Maximum Demand - DG (KW).

## 2.2) Communication:

### 2.2.1) Communication Interface:

- Through RS485 Communication with MODBUS RTU,
- Power Line Communication using Power Line Node and Concentrator.
- Baud Rate : 9600

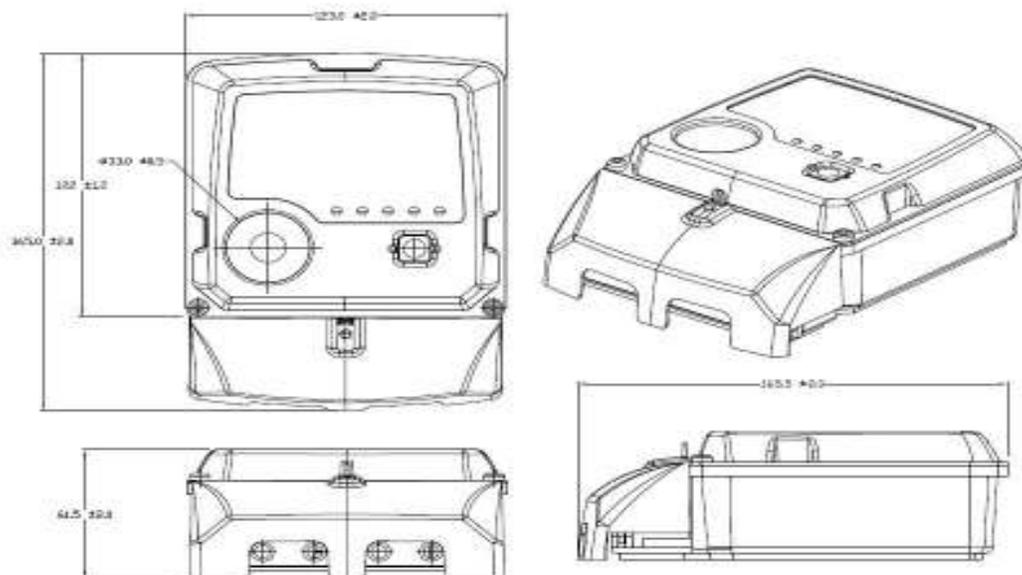
#### Note:

- (i) Field Programmability of the meter is optional based on the customer requirement,
- (ii) Each meter is given a unique number at the factory.

## 2.3) Pulse Counting Method:

- KWh Impulse output LEDs are provided on the front panel,
- It shows 3200 Impulses/KWh for 1ph 2W 240V / 60A.

## 3) DIMENSION DIAGRAM:



Dimension Chart for Single Phase AC Static Utility Meter

### **Technical Specifications**

Accuracy	: IS13779 (Class 1.0S)
Nominal Voltage	: 1Ph 2W – 240VAC ( $\pm 10\%$ )
Nominal Current	: Whole Current (10-60A)
Basic Current	: 5A
Starting Current	: 0.2% $I_b$
Power Factor	: 4 quadrant operation
Frequency	: 50Hz, $\pm 5\%$
Meter Constant	: 3200 Impulses/KWh
Resolution	: 0.1
Display	: LCD (16x2 Digits – white character with blue background)
Communication	: RS485 Communication with MODBUS RTU in integration with Power Line Communication
Temperature	: Operating Temp. – (-10 to 55) $^{\circ}$ C Storage Temp. – (-20 to 70) $^{\circ}$ C Humidity 5 to 95% RH at 50 $^{\circ}$ C (Non-Condensing)
Dimension	: (L 165 x W 123 x H 61.5) $\pm 2.0$ mm
Mounting	: Wall Mounting
Weight	: 720gms. (app.)