

Technical Specifications
of
Single Phase AC Static Utility Meter
(SPUX101)



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, KWh Impulse and Tamper Condition,
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 parameters,
RTC with battery backup is used for time keeping and has a calendar of 100 years,
Wireless Xbee Communication can be done between Power Logger and Meter, 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 12 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:

Door Number,
Time,
Date,
Meter ID,
Active Energy (Kwh),
Voltage (V),
Current (I),
Power Factor (p.f.) ,
Frequency (Hz.),
Active Power (KW)
Reactive Power (KVA),
Apparent Power (KVA), Maximum
Demand (KW).

2.2) Communication:

2.2.1) Communication Interface:

Through wireless Xbee communication (Pro S2B),
Wireless communication between power logger and meter.

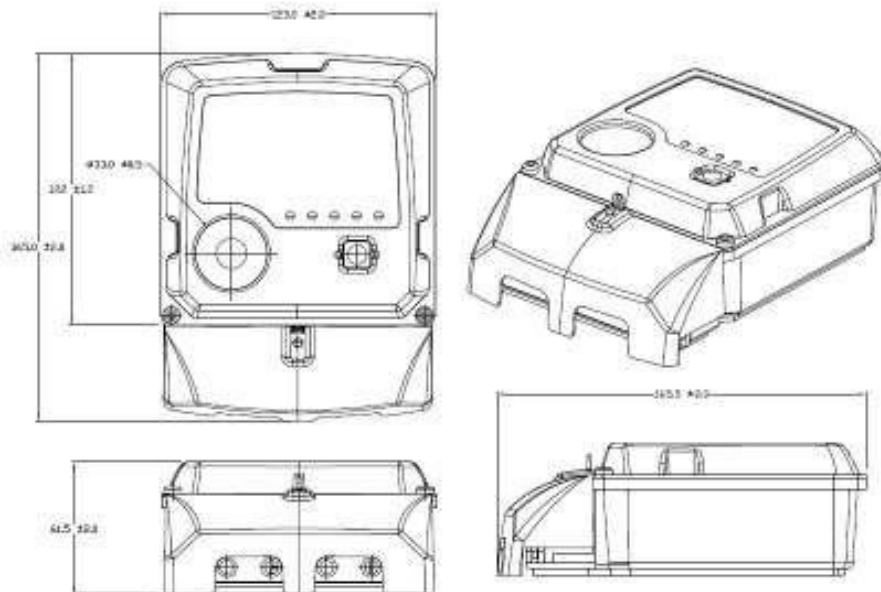
Note:

- (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 and Tamper Indication output LEDs are provided on the front panel,
It shows 3200 Impulses/KWh for 1ph 2W 240V / 40A.

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)
Tamper Indication	: Through LED Indication (Separate Neutral CT Provided)
Communication	: Wireless Communication using Xbee Pro S2B
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) ± 2.0 mm
Mounting	: Wall Mounting
Weight	: 720gms. (app.)

Power Logger:

It is a Hand held device used to get data through air from meter, Data parameters are Meter ID, Door Number, Current Kwh value, 20X4 LCD with backlight feature are provided for indicating Meter ID, 4X4 matrix keypad and 6 nos. of key are provided to access and control the data from meter,



4X4 Matrix Keypad – 16 keys representing from (0 to 9) with alphabets (a to z) along with two special characters * and #,

6 Keys representing Refresh, Enter, Esc., Up, Down and Data Request.

Display Parameters:

During Turning ON logger if meter is ON then corresponding meter ID will be received and displayed in front display else if meter is OFF then NO ID will be received (i.e.) meter will be in ideal condition,

Using navigation keys if particular ID is selected, data will be displayed by entering Data Request Key

Wireless Communication done between logger and meter,

Xbee in logger denoted as Coordinator and where as in meter denoted as Router,

Data can be stored and backup can be taken using memory device (Pen Drive),

Coordinator in logger cannot be duplicated and replace the same need to reconfigure all the routers in coordination with new coordinator,

Data verification done through CRC, so data corruption will not occur.