Technical Specifications

of

DC Energy Meter

(SPDC201)

Class 1.0S

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General Specifications

1) GENERAL:

- Universal Auxiliary Supply (85 – 265 VAC)
- Data can be stored using application software via RS485 or **Memory Card (Optional)**
- Voltage full scale programmable using RS485 (MODSCAN)
- Current full scale programmable independently
- Password Protected and it is editable,
- Displays instantaneous Volts & Amps
- Voltage Input (150VDC (default) & Factory adjustable) and Shunt Current Input (75mV)

2) METER FEATURES:

2.1) Display Details:

- Liquid Crystal Display (4*16, Blue with White Character) – The parameters are calculated by the meter are displayed,
- Selectable Parameters – Can select any parameters.
- Scroll rate – The scroll rate of the display parameter scroll in steps of 4secs.
- Keys are provided to stop, scroll, edit and to view the particular parameter.

2.1.1) Display Parameters:

- RTC
- Meter ID
- Voltage
- Current
- Power, kW
- Energy, kWh

2.2) Key Features:

- The Parameter setup can be done through 4 nos. of soft keys on front fascia,
- Keys on the front panel is used to
  - ✓ scroll, increment, decrement through display parameter and
  - ✓ set the Meter ID,
  - ✓ CT Primary values,
  - ✓ Time & Date,
  - ✓ Energy Reset , (CH1 / CH2),
  - ✓ Change Password.

- Press scroll key once the parameter set is completed, this allows to view the parameters one after the other automatically (change over time period is 4 secs). If this is not done auto scroll will not happen.

Keys	Description
Mode / Set	To Edit and Enter the parameter values
Up	To view Next parameters To increment the value while setting To view the parameters in shortcut mode
Next	To view previous parameters To select digit while value setting
Scroll / Esc	To stop and view the parameters To scroll the parameters To exit from parameter setting

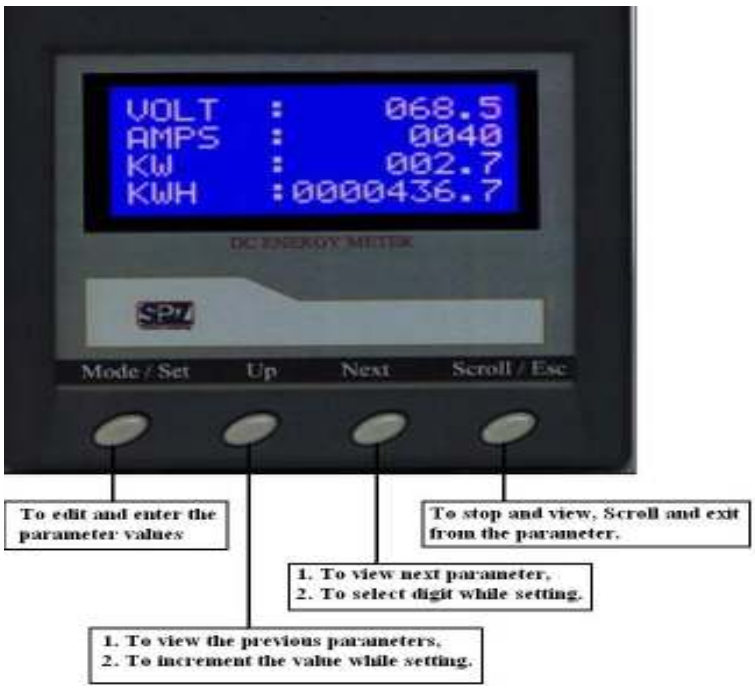


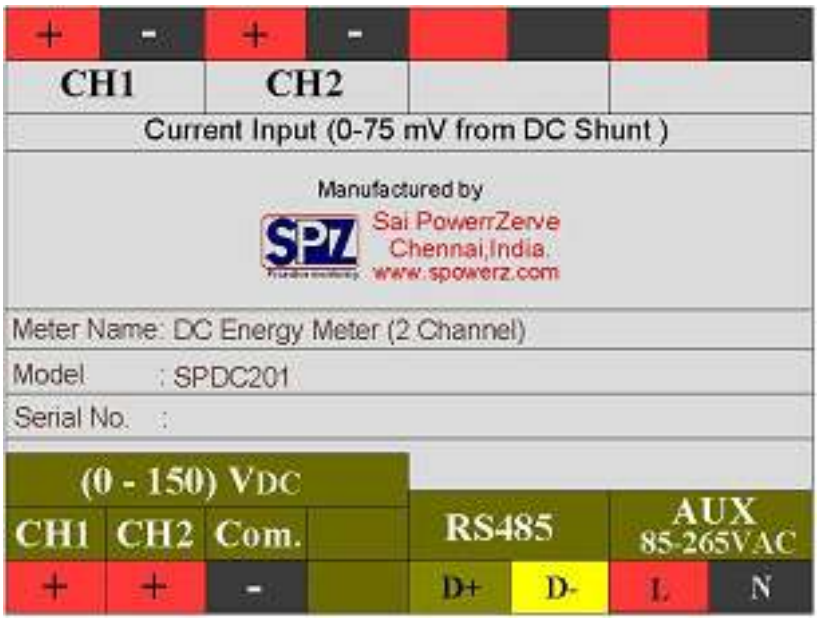
Figure:Key feature description

Enabling Auto scroll / Manual Scroll :

2.2.1) Enabling Manual scroll: Press **Stop/Scroll** key to enable manual scroll mode. Now parameters can be viewed one by one using **Up** and **Next** Keys

2.2.2) Enabling Auto scroll *:* When display in manual mode, press **Stop/Scroll** to enter into auto scroll mode. Parameters will scroll 4 secs. one after the other. By default, when meter is switched it will be in auto scroll mode.

2.3) Rear Terminal Details:



2.3) Set Parameters:

- Meter ID,
- Time and Date,
- Input Amps (CH1 / CH2)
- User Password.
- Energy Reset (CH1 / CH2)

2.4) Communication:

2.4.1) Communication Interface:

- Through RS485 Communication with MODBUS RTU,
- Baud Rate : 9600
- Power Line Communication using Power Line Node and Concentrator.
- Memory Card (Optional)

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.

2.5) Safety Precautions:

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices.
- Only qualified electrical workers should install this equipment. Such work should be performed only after reading this entire set of instructions.
- If the equipment is not used in a manner specified by the manufacturer, the protection provided by the equipment may be impaired.
- NEVER work alone.
- Before performing visual inspections, tests, or maintenance on this equipment, disconnect all sources of electric power.
- Assume that all circuits are live until they have been completely de-energized, tested, and tagged.
- Pay particular attention to the design of the DC power system.
- Consider all sources of power, including the possibility of back feeding.
- Turn off all power supplying the dc energy meter and the equipment in which it is installed before working on it.
- Always use a properly rated voltage sensing device to confirm that all power is off.
- Before closing all covers and doors, inspect the work area for tools and objects that may have been left inside the equipment.
- The successful operation of this equipment depends upon proper handling, installation, and operation.
- Neglecting fundamental installation requirements may lead to personal injury as well as damage to electrical equipment or other property.
- High voltage testing may damage electronic components contained in the dc energy meter.
- Ensure that no wiring strands are straying outside after connecting the wires.
- DC Energy Meter should be installed in a suitable electrical enclosure.

Failure to follow these instructions will result in death or serious injury

Technical Specifications

Accuracy	:	Class 1.0S
System type	:	DC Input Voltage (Default 150VDC)
Resolution	:	0.1 (for Kwh, Voltage)
Display	:	4x16 LCD (Blue with White Character)
Auxiliary Supply	:	85 – 265 V_{AC}
DC Current	:	Primary side – Programmable (1A – 5000A)
Starting Current	:	10mA
Frequency	:	50Hz, ±5%
Communication	:	RS485 Communication with MODBUS RTU / Memory Card (Optional)
Temperature	:	Operating Temp. – (-10 to 55)°C Storage Temp. – (-20 to 70)°C Humidity 5 to 95% RH at 50°C (Non-Condensing)
Dimension	:	(96 x 96 x 48) mm (Inclusive of connector)
Panel Cutout	:	92 x 92 mm (-0.5mm)
Mounting	:	Panel Mountable
Connector Type	:	Screw type terminals (U Lug 2.5mm)
Weight	:	350gms. (app.)