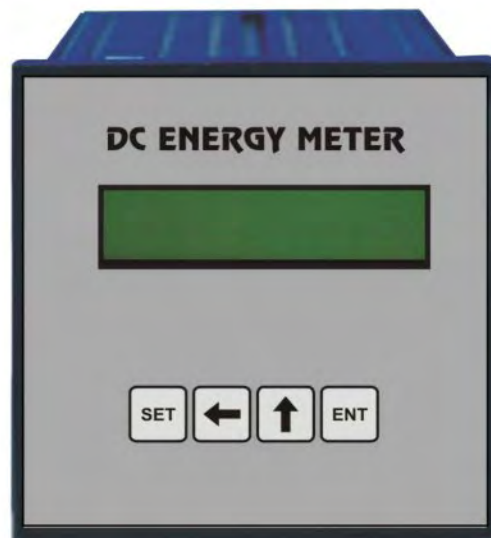


DC ENERGY METER

DCEM measures & displays the total electrical energy consumed / generated by multiple loads being connected to single D.C. Voltage source. (Such as battery or solar panel). It displays integrated energy value in 7 digit as Kilo-Watt Hour (KWH) . (The product of Volt-Amp and Time) for 7 channels. It Determines the current by measuring the voltage drop across current shunt (which is setttable by user). It also measures the input voltage. The voltage and current are multiplied. Voltage, Current, KW & KWH for each channel can be observed by using push button switches provided on the front panel.

Features

- 7 digit LCD display of KWH
- Reset of KWH for every channel protected by password.
- Individual channel can be enabled or disabled.
- User selectable Shunt rating.
- Shunt can be placed either in +VE or -VE side of the DC Power Source
- Energy values & settings retained after power failure.
- Soft calibration – no trimpots.
- Optional- RS 485 Modbus link for PC connectivity.
- Data on Modbus protocol can be in “Integer” format or IEEE 754
- Optional Real Time Clock
- Operates from battery being monitored (optionally it can be operated from a different auxiliary power supply).
- User friendly LCD display messages.



Technical Data

Electrical:

- Input Voltage : Nominal Voltage Range
12V (10 to 19V), 24V (20 to 38V)
48V (40 to 76V), 96V (80 to 152V)
110V (90 to 175V), 220V (180 to 350V)
- Input Current : Nominal Shunt value 75mV (50 to 100)
Operating range 5mV to 100mV
- Auxiliary Supply : Same as input voltage or Optionally any
Voltage noted in the voltage range above.
- Measurement : 7 Channel DC KWHr:
- Accuracy : +/- 1% (10 % to 120 % of range)
- Resolution : 0.1 KWHr

Indication:

Display : 16 x 2 Character backlit LCD , character size 2.95 x 4.35mm

Display parameter (four channels)

KWHr	XXXXXX.X
CURRENT	XXX.X
POWER (KW)	XX.X
VOLTAGE	XX.X

Configurable parameters:

- Shunt rating 75 mv = 10 to 1000 AMP
- Baud Rate 9600 to 19200
- Device/ Unit address 01 to 255
- Calibration for each channel and reset of energy count provided with password protection.

Protection : Reverse input polarity protection

Isolation:

- a) Between Aux-Supply and Electronics: 500 V DC for 1min,
- b) Between Current (Shunt) and Input DC potential: 500 V DC for 1 min,

Communication :

- RS 485 2 wire communication
- Protocol MODBUS RTU integer, or IEEE 754
- Baud rate : Settable either 9600 or 19200
- Address : Settable 01 to 255

Data Retention : Energy values and settings retained after power failure.

Calibration : Soft Calibration through Software.

Real Time clock (RTC) : Optional

Power Consumption : < 2 Watt

Security:

- Password for editing of settings.
- Password for calibration.

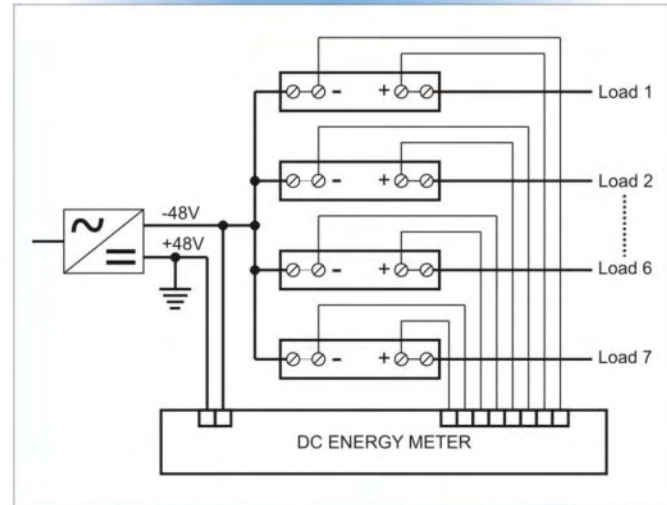
Environmental:

- Normal operating conditions. Temperature: Operating temperature: 10 C to 55 C
- Relative humidity: 55% to 85%.

Dimensions:

- Housing: Plastic or Metal Housing 96 X 96 X 65 mm (cut out 92 x 92 mm)

Block Diagram



Other Products

- Supervisory Remote Control & Data Acquisition Systems - Total turnkey.
- Remote terminal Units (RTU).
- Micro RTU.
- Microprocessor Based Equipments _ MCB Monitors, Beetle Monitors, Temperature Scanner etc.
- Custom Built Electronic Equipments.
- Digital A.C. Ammete, Voltmete, Flow Meters.
- Digital Volt, Amp, & Watt Meter - class 0.5/0.2.
- Position Indicating Transducers.
- Static Energy Meters.
- Digital Power Monitor Cum Controllers.
- On-line Gas Analysers

Order details (select the option from below)

EXAMPLE : DCEM1 - A - 1 - 485 - 2

INPUT VOLTAGE

- A 12V (10V to 19V)
- B 24V (20V to 38V)
- C 48V (40V to 76V)
- D 96V (80V to 152V)
- E 110V (90V to 175V)
- F 220V (183V to 350V)
- G other

NO. OF CHANNEL

- 1 CHANNEL 1
- 2 CHANNEL 2
- 3 CHANNEL 3
- 4 CHANNEL 4
- 5 CHANNEL 5
- 6 CHANNEL 6
- 7 CHANNEL 7

COMMUNICATION

- XXX NO COMMUNICATION
- 232 RS232
- 485 RS485

AUXILLARY SUPPLY

- A SELF POWER
- B 12V (10V to 19V)
- C 24V (20V to 38V)
- D 48V (40V to 76V)
- E 96V (80V to 152V)
- F 110V (90V to 175V)
- G 220V (183V to 350V)
- H other



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