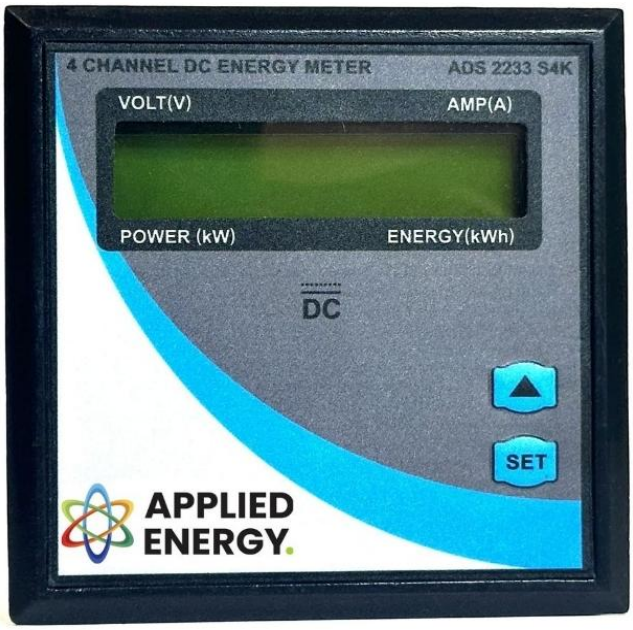
DC ENERGY METER
ADS 2233 S4K

Applied Energy's 4 Channel DC Energy Meter (Model ADS 2233 S4K) is a versatile and highly accurate device designed for measuring and monitoring DC energy parameters across multiple channels. Engineered to meet the demands of modern energy systems, it offers robust performance with advanced features including real-time data acquisition, high-accuracy measurements, and extensive data logging capabilities. Ideal for applications in telecom, renewable energy, and industrial setups, the ADS 2233 S4K ensures precision, reliability, and ease of use.



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Applied Energy Technologies India P Limited
288A, 3rd Floor, Phase IV, Udyog Vihar, Gurugram (HR) India

Technical Specifications

Measurement Parameters

Parameter	Details
DC Voltage	1 Channel (Common Battery Bank)
DC Current	4 Channels
DC Supply	From Rectifier DC Voltage (self-powered)

Range of Measurement Parameters

DC Voltage	18 - 60 V DC
DC Current	1 - 99 mV DC / 0-400A

Resolution of Measurement Parameters

DC Voltage	Better than 0.1 V
DC Current	Better than 0.1 mV (Minimum Input: 1.0 mV)

Measurement Input Method

DC Voltage	2-pin direct input connected to rectifier output
DC Current	2-pin/channel; voltage drop across shunt (common negative with rectifier voltage)

Measurement Accuracy

DC Voltage	0.5% FSR @ 25 °C or better
DC Current	0.5% FSR @ 25 °C or better

Parameter Measurement Method

Input	Differential input with Drift Compensation for current
Data Acquisition	Multiplexed

Derived Parameters

Power	kW
Energy	kWh

Range of Derived Parameters

Power	0 - 24 kW
Energy	0 - 100,000 kWh

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Resolution of Derived Parameters

Power	0.1 kW
Energy	0.1 kWh

Accuracy of Derived Parameters

Power	1% FSR @ 25 °C or better
Energy	1% FSR @ 25 °C or better

Displayed Parameters

Cumulative Energy	All 4 channels (XXXXXX.X kWh)
Power	All 4 channels (XX.X kW)
Ampere	All 4 channels (XXX.X A)
Voltage	Common rectifier voltage (XX.XX V)
Daily Log	Consumed energy/day with date and month stamp (last 50 days)
Monthly Log	Consumed energy/month with month and year stamp (last 12 months)

Editable Parameters

Shunt	1-99 mV, 1-400A
Slave ID	1 to 32
Cumulative Energy Reset	All 4 channels
Channel Enable/Disable	All 4 channels
RTC Settings	Real-time clock
Lock	Lock Changing/Editing
Editing Input	2 front-panel tactile switches

Input Impedance

Voltage	> 100 kΩ (measured circuit, active state)
Current	> 10 kΩ (active state per channel)

Protection and Data Security

Voltage	1.2x rating & reverse polarity
Current	Up to 60 V
Editable Parameters	Accessible only with password
Cumulative Energy	Stored & incremented in memory
Isolation	Galvanic & optical (1 kV) between measurands and serial port

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Ports and Connectors

Measurement Port & Supply Port	10-pin male/female pluggable connector
Serial Port	RS 485, 3-pin male/female pluggable connector
Voltage & Current Rating	300 V / 12 A

Display and Memory Features

Screen Display	16 x 2 alphanumeric LCD with yellow backlight
RTC- Real Time Clock	High accuracy with 50 ppm/°C crystal and lithium coin/button battery backup
Update of Display Readings (Based on Sampling Algorithms)	Approx. 1 sec all 4 Channels Simultaneously
Update of DCEM Memory (Based on Internal Calculations)	Every 0.1 kWh Increment
Meter Burden	< 2 Watts; supply current - 15mA

Environmental Specifications

Operating Temperature	0 - 55 °C
Storage Temperature	-20 to 80 °C
Operating Humidity	0 - 80% RH (non-condensing)
Casing Material	Virgin ABS
Size	96 mm x 96 mm x 30 mm (excluding termination contacts)
Cut-out Dimensions	92 mm x 92 mm
Color	Black
Mounting Type	Panel

Communication Specifications

Type	RS 485, 2/3 wire communication port
Protocol	1/2 Duplex Modbus RTU
Settings-1	Default Slave ID: 1, Function Codes: 3, 4, 6, Baud Rate: 9600
Settings-2	1 Stop Bit, No Parity, Start Address: 30000 (Physical)
Interface	DX-, DX+, GND
Device Address Range	01 – 32 (Devices Supported)
Communication Response Timeout	6 mS

Note: Specifications are subject to change without notice to improve product performance

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