



High performance rack-mountable battery test system with integrated impedance analyser

The OctoStat is a multi-channel test system with a fixed number of 8 channels per unit. Each channel is equipped with its own dedicated FRA/EIS and an input for temperature measurement. The OctoStat has an integrated DataSecure that stores all data independent of the PC to ensure that in the event of communication loss or computer crash, the measurement will continue and measurement data is never lost. This system stability makes the OctoStat a perfect system for long term testing applications. The OctoStat is built into a 19inch rack mountable housing.



AVAILABLE

- OctoStat30: $\pm 30\text{mA}/\pm 10\text{V}$ per channel
- OctoStat200: $\pm 200\text{mA}/\pm 10\text{V}$ per channel
- OctoStat5000: $\pm 5\text{A}/\pm 10\text{V}$ per channel

POWERBOOSTER

- OctoBoost16000: $\pm 16\text{A}/\pm 10\text{V}$ each channel can be combined to increase power, for example 4 x $\pm 32\text{A}$, 2 x $\pm 64\text{A}$, 1 x $\pm 64\text{A}$ and 4 x $\pm 16\text{A}$, 1 x $\pm 128\text{A}$, etc.

CONNECTION

- USB
- LAN / Ethernet

EXPANDABILITY

Different OctoStats can be combined in the same rack and connected/controlled from the same computer. Each rack and channel can be assigned a freely user selectable number or name for easy recognition.

19INCH RACK MOUNTABLE HOUSING

Each OctoStat unit is built into a 19inch rack mountable housing. Multiple units and combinations of OctoStats can be built into the same rack.

SIMULTANEOUS CONTROL

The IviumSoft control software allows control of separate channels or all channels simultaneously with synchronized start. Data can be plotted per channel or simultaneously for all channels on a single screen.

Each Channel

- Dedicated embedded FRA/EIS
- Dedicated software for battery testing
- Capable of EIS during DC charge/discharge
- Overload handled via clamping (not shut-off) so measurements continue



	OctoStat30	OctoStat200	OctoStat5000	OctoBoost16000 (Booster for OctoStat)
System				
Current compliance	±30mA	±200mA	±5A	±16A
Maximum output voltage	±10V	±10V	±10V	-2 to +9V, or ±5V
FRA/EIS	10µHz to 100kHz	10µHz to 100kHz	10µHz to 100kHz	10µHz to 10kHz
Analog I/O	16bit analog I/O channel	16bit analog I/O channel	16bit analog I/O channel	
Channel combination	No	No	No	Yes*
Potentiostat				
Applied potential range	±10V	±10V	±10V	-2 to +9V, or ±5V
Resolution	0.33mV	0.33mV	0.33mV	0.33mV
Applied potential accuracy	0.2%, or 2mV	0.2%, or 2mV	0.2%, or 2mV	0.2%, or 2mV
Current ranges	±10nA to ±10mA	±10nA to ±100mA	±10nA to ±10A	±10A
Measured current resolution	16bits min. 1pA	16bits min. 1pA	16bits min. 1pA	defined by controlling potentiostat
Measured current accuracy	0.2%	0.2%	0.2%	0.2%
Galvanostat				
Applied current resolution	0.033% of range	0.033% of range	0.033% of range	0.033% of range
Applied current accuracy	0.2%	0.2%	0.2%	0.2%
Measured potential resolution	16bits, min. 400nV	16bits, min. 400nV	16bits, min. 400nV	16bits, min. 400nV
Measured potential accuracy	0.2%, or 2mV	0.2%, or 2mV	0.2%, or 2mV	0.2%, or 2mV
Dimensions				
Width	44.2cm	44.2cm	44.2cm	44.2cm
Height	1U	1U	2U	3U

*Channels can be combined to increase current, for example 4 x ±32A, 2 x ±64A, 1 x ±64A and 4 x ±16A, 1 x ±128A, etc.

All Channels

Channel Performance

4 Electrodes	WE, CE, RE and S
Potentiostat bandwidth	>500kHz
Stability settings	High Speed, Standard, and High Stability
Programmable response filter	1MHz, 100kHz, 10kHz, 1kHz, 10Hz
Dual Channel signal acquisition	Dual channel 16bit ADC, 100,000 samples/s

Impedance Analyser

Frequency range	10µHz to 100kHz (10kHz)
Amplitude	0.015mV to 1.0V, or 0.03% to 100% of current range
DC offset	16bit DC offset subtraction, and 2 DC-decoupling filters

Electrometer

Input impedance	>1000Gohm // <10pF
Input bias current	<10pA
Bandwidth	>5MHz

Connection

Connectors	GND and combined EMO: emergency off control
Communication	USB/LAN (Ethernet)
Integrated DataSecure	Data acquisition time: 2ms minimum Stored no. of data points: 20M each channel

