

OctoStat



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



OctoStat

	OctoStat30	OctoStat200	OctoStat5000	OctoBoost16000 (Booster for OctoStat)
System				
Current compliance	$\pm 30\text{mA}$	$\pm 200\text{mA}$	$\pm 5\text{A}$	$\pm 16\text{A}$
Maximum output voltage	$\pm 10\text{V}$	$\pm 10\text{V}$	$\pm 10\text{V}$	-2 to +9V, or $\pm 5\text{V}$
FRA/EIS	10 μHz to 100kHz	10 μHz to 100kHz	10 μHz to 100kHz	10 μHz to 10kHz
Analog I/O	16bit analog I/O channel	16bit analog I/O channel	16bit analog I/O channel	No
Channel combination	No	No	No	Yes*
Potentiostat				
Applied potential range	$\pm 10\text{V}$	$\pm 10\text{V}$	$\pm 10\text{V}$	-2 to +9V, or $\pm 5\text{V}$
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	$\pm 10\text{nA}$ to $\pm 10\text{mA}$	$\pm 10\text{nA}$ to $\pm 100\text{mA}$	$\pm 10\text{nA}$ to $\pm 10\text{A}$	$\pm 10\text{A}$
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 $\pm 32\text{A}$, 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.

All Channels

Channel Performance

4 Electrodes
 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 10 μHz 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

