

Inspectrum. 10-5 ES

Next generation of battery characterization

- Simultaneous measurement of up to 32 impedance points
- Ultra-fast measurement with unprecedented precision
- Easy process integration and intuitive to operate
- Embedded spectrum calculation and validation
- Highly efficient switched-mode design:
No active cooling, no heat sink, no maintenance
- CAN Bus & USB interface

SAFION

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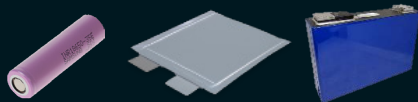
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Schedule a demo!



For all cell geometries



For all cell chemistries



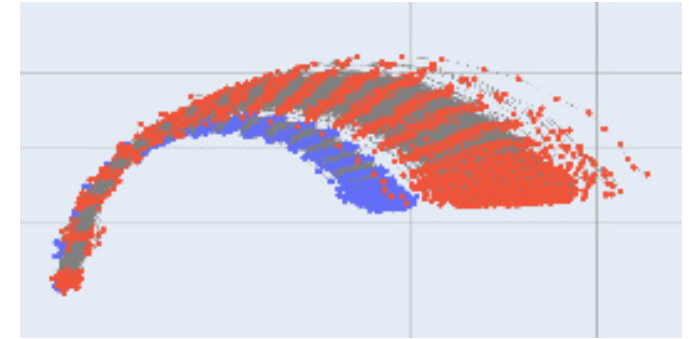
SYSTEM OVERVIEW



SPECIFICATIONS

Parameter	Value
AC current output (1 Hz - 10 kHz)	Max. 10 A (peak-peak)
AC excitation	Parallel multi-sine, up to 32 frequency points
DC current output (charge and discharge option)	Max. +/-1 A
EIS measurement charge/discharge	Yes
EIS measurement during temperature change	Yes
Temperature Measurement Input	1 CH RTD
DC voltage range	0 - 5 V
Frequency range	1 mHz - 10 kHz
Accuracy frequency	100 ppm
Interfaces	USB, CAN
Voltage Input Resolution (DC)	< 0.5 mV
Voltage Input Resolution (AC)	< 2 μ V
Impedance range	0.1 m Ω - 100 m Ω
Accuracy Z (typical, after calibration)	< 1 %
Accuracy arg(Z) (typical, after calibration)	< 0.5 °
Input Power	< 60 W
Input Voltage	12 VDC
Casing (W x D x H)	165 x 240 x 55mm
Ambient temperature	+10°C to +30°C

REAL-TIME EIS MEASUREMENT



The electrochemical impedance spectrum (EIS) can be seen as the battery's fingerprint and contains highly relevant information to forecast future capacity, lifetime and performance within your application, and can provide precise information regarding cell quality.

Safion's Real-Time EIS method makes use of a superimposed excitation to measure up to 32 impedance points simultaneously. This way for the first time EIS measurements can be performed under dynamic operating conditions as well as under abuse conditions. This allows the performance and safety limits of lithium-ion batteries to be measured with unprecedented accuracy, providing our customers with new insights for material, cell design and battery system development.

RECOMMENDED PRODUCT

MUX8 | 8-Channel Multiplexer

