

# FlexP 0160 current & voltage booster

## The Full Pack Solution

### Unique features

- Max current  $\pm 50$  A
- Voltage range 1-60 V
- EIS up to 10 kHz
- Stackable  $\pm 200$  A
- Power 3 kW



The **FlexP 0160** is designed for battery stack/pack characterizations. The continuous maximum current of  $\pm 50$  A for a single unit can be extended up to  $\pm 200$  A by connecting four units in parallel. The control voltage range is 1-60 V.

When connected to a multichannel potentiostat/galvanostat VMP3, the system is able to measure each element in series within a pack. This provides valuable information to improve the cell balancing, overdischarge/charge protection, gauge management of the Battery Management System (BMS).



## APPLICATIONS

- Batteries
- Supercapacitors
- Fuel Cell
- Electrolyzer





## Full pack solution with EC-Lab® software

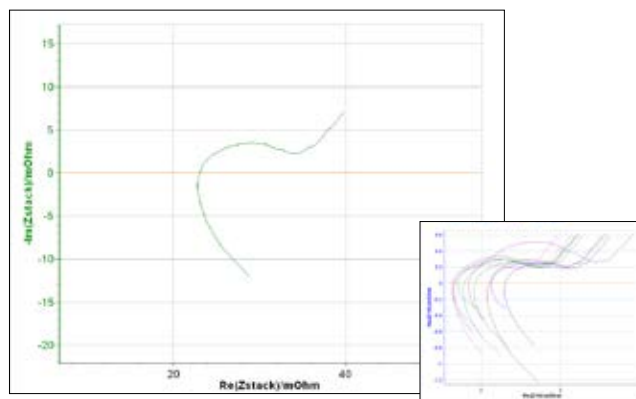
The **FlexP 0160** is a **plug and play** module of the multichannel benchmark, VMP3. It is also compatible with SP-150 & VSP.

As such, the **FlexP 0160** is extended all the benefits available in the EC-Lab® software including:

- Measure each element in series within a pack
- Sequence builder for quick and easy assembly of complex experiments such as Urban Profiles
- Real time data display of advanced graphs such as Coulombic Efficiency vs cycle number
- Advanced data processing and analysis such as EIS equivalent circuit modeling with **Z Fit**

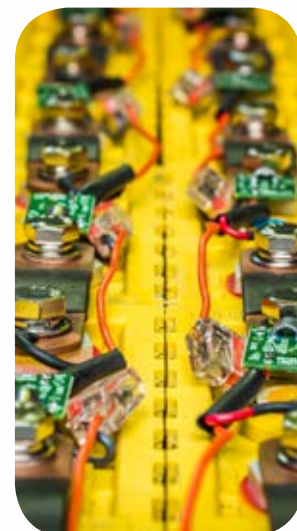
## EIS measurement for each element within the pack

Galvano EIS at 5A on 40 A.h battery pack.



EIS data for the whole pack

EIS data of each element (10 elements shown here)



## SPECIFICATIONS

Voltage	
Ranges	1 - 60 V
Accuracy	0.2% of value $\pm 0.1$ % FSR
Current	
Max	$\pm 50$ A per unit ( $\pm 200$ with 4 units in parallel)
Ranges	50 A
Accuracy	0.2% of value $\pm 0.1$ % FSR
Parallel	yes (up to 4 units)
General	
Rise/Fall	20 $\mu$ s
Slew rate	1 V/ $\mu$ s
Mechanical & electrical	
Power consumption	3600 W, 200-264 V, 47-440 Hz
Dimension	500 x 450 x 133 mm (L x W x H)
Weight	27 kg
Rack mounted	yes (19" x 3U)

## EIS

Frequency range	10 kHz - 10 $\mu$ Hz
Accuracy	See contour plot

