

# BP-300

## BiPotentiostat/BiGalvanostat/EIS The ultimate versatile bipot

Unique features :

- Up to 7 MHz in EIS
- $\pm 2$  A (up to 30 A with option)
- $\pm 30$  V compliance and control
- 1  $\mu$ s as best sampling rate
- Analog ramp with scan rate up to 1 MV/s
- Specific bipot connection mode

The BP-300 is a **BiPotentiostat/BiGalvanostat** equipped with EIS capability and analog ramp generator. With the specific EC-Lab product control mode, the so-called CE to Ground mode, the BP-300 can address any bipot measurement. This measurement is typically required for Rotating Ring Disk Electrode (**RRDE**) set-up and InterDigitated Array (**IDA**) electrodes.

The BP-300 can also be used as **multichannel** with two measuring channels that can be controlled by one or several computer(s).

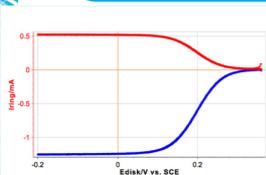


### APPLICATIONS

- Electrocatalyst
- Sensor
- Corrosion
- Fuel Cell
- Batteries

# BP-300 FOR WHAT APPLICATION?

## ELECTROCATALYST



- The kinetics studies of the catalytic process can be investigated through highly accurate EIS and RRDE (due to the CE to GND control mode) studies.
- The fast scan voltage (up to 1 MV/s and a sampling rate of 1  $\mu$ s) enables characterization of species with short lifetimes
- The high compliance voltage  $\pm 30$  V (or  $\pm 48$  V in option) facilitates measurements in most media, even highly resistive, non-polar electrolytes. Ohmic drop can be compensated with a fast feedback (hardware) compensation.

## FUEL CELL



- Highly capacitive cells can be managed with the analog ramp generator which produces a smooth, analog ramp rather than a digital, staircase ramp.
- High current booster *i.e.* 2 A (or 30 A as option) allows measurements on high surface area cells or a stack of cells.

## BATTERY



- High current booster *i.e.* 2 A (or 30 A as option) permits measurements on large cells (18650-type, 26650-type or prismatic) or pack of cells. Packs with a voltage up to 48 V can be handled.
- Additional voltage measurement allows simultaneous measurement of both positive and negative electrode with 3-electrode single cell configuration.

## SENSOR



- The low current capability of the instrument allows the determination of the best limit of detection of the sensor and issue accurate calibration curves.
- The unique CE to GND control mode allows measurements on IDAs, which is helpful for sensor development.

## CORROSION



- The polarization resistance and kinetics process can be determined due to the highly accurate EIS measurements.
- Highly resistive coatings can be managed due to the low current capability (impedance up to 10 M $\Omega$  with accuracy of 1%, 1°).

## SPECIFICATIONS

	Channel 1	Channel 2
<b>Voltage</b>		
Compliance	$\pm 30$ V	$\pm 12$ V ( $\pm 48$ V in option)
Control	$\pm 30$ V	$\pm 10$ V ( $\pm 48$ V in option)
<b>Current</b>		
Max current	$\pm 2$ A	$\pm 0.5$ A ( $\pm 30$ A with HCV-3048)
Lowest resolution	0.8 pA on 10 nA range (standard cell cable) 80 nA on 1 pA range (ULC cell cable)	
<b>EIS</b>		
Max frequency	Up to 7 MHz	Up to 7 MHz in option
<b>Additional features</b>		
Analog ramp generator	Yes	Yes
Best sampling rate	1 $\mu$ s	1 $\mu$ s
Hardware iR compensation	Yes	Yes
Specific Bipot control mode	Yes CE to GND	Yes CE to GND
Floating	Yes	Yes
Additional voltage measurement	Yes	Yes

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