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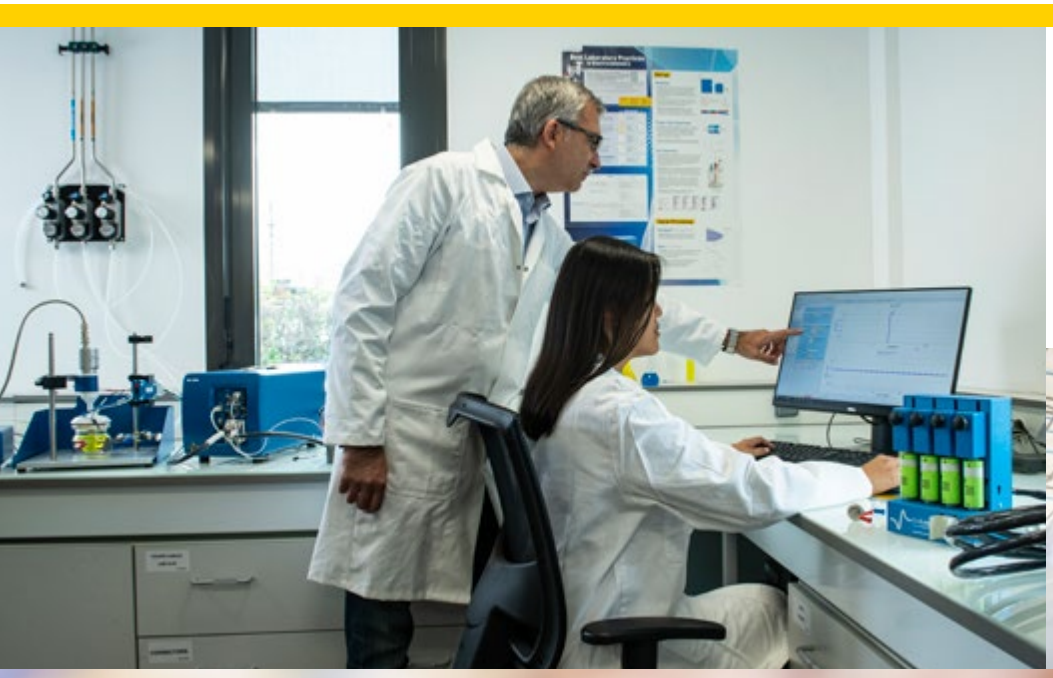
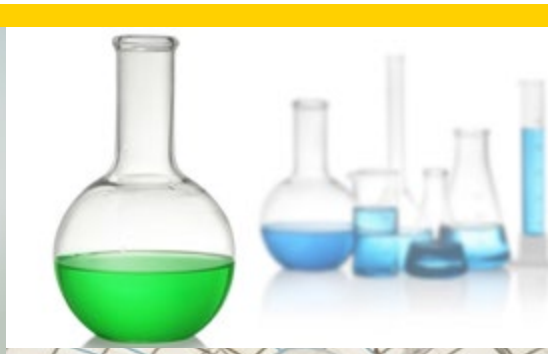
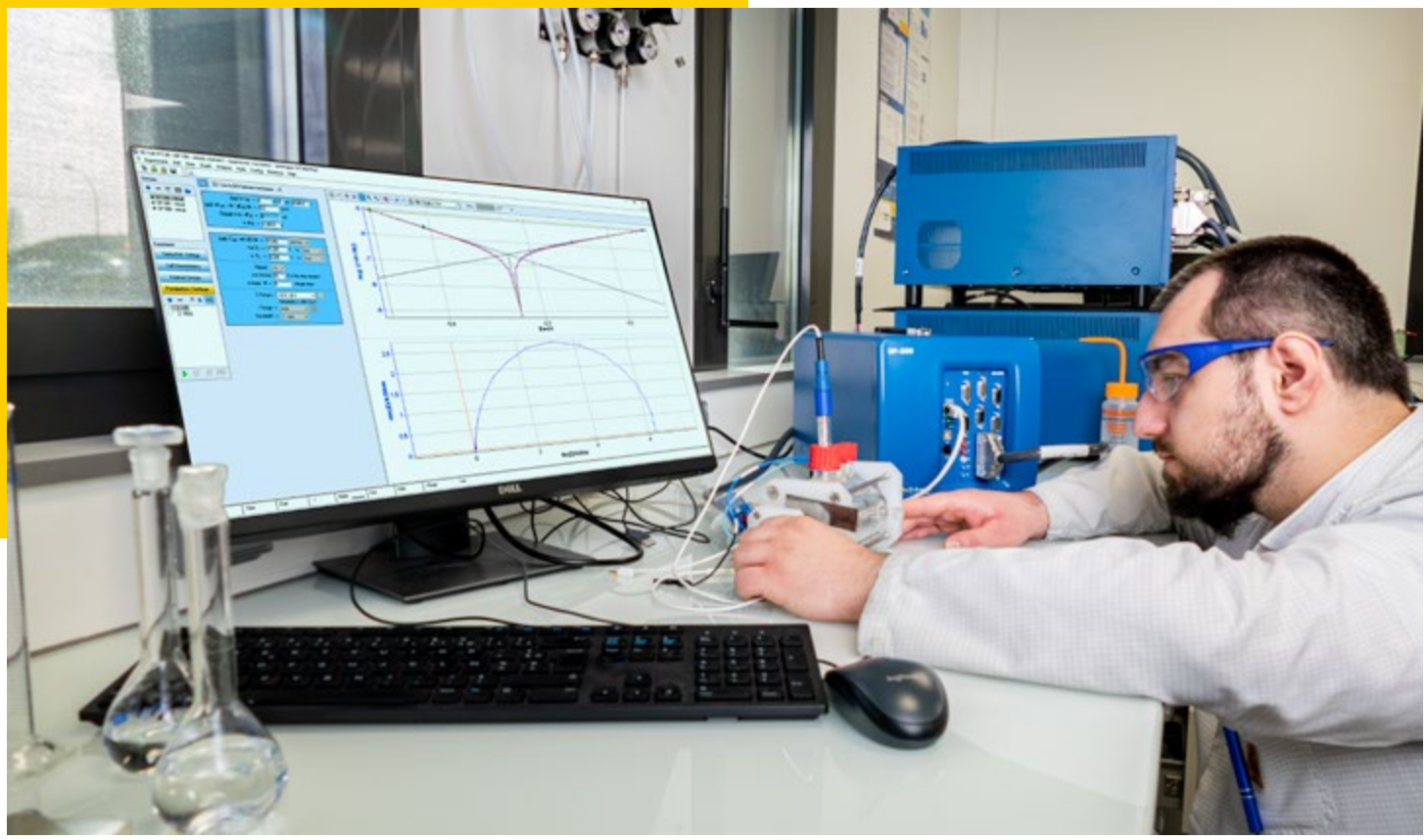
BioLogic

Instruments that take your research further

Premium Potentiostats.







Premium: When only the best will do.

High-performance, high-precision instruments for the most demanding research applications imaginable.

Multi-channel Premium instruments have been designed for the most demanding research needs of academia and industry. Built around a modular design these high-precision, high-accuracy instruments will grow with your research needs and help you reach new scientific frontiers. The Premium range offers outstanding capabilities, such as:

- **Choice of chassis size, vertical & horizontal, 1 to 16 channels**
- **Ethernet connectivity for improved group working**
- **7 MHz for advanced EIS research and EIS Quality Indicators for simple validation of measurements**
- **Voltage from -48 V to +48 V with external boosters**
- **Current from 1 pA to 150 A (with ultra-low current option and high-power boosters) Several boosters can be connected, in parallel, for a current capability of 150 A**
- **Analog voltage scan of up to 1 MV/s with an acquisition time down to 1 µs**
- **Floating mode, analog filtering and built-in calibration board**

Visit our YouTube channel and Learning Centre for scientific articles, EC-Lab® tutorials and product support information.
https://www.biologic.net/topics/

YouTube Channel

State-of-the-art, research-grade potentiostat galvanostats

Specification

Minimum/Maximum Capabilities

Channels: 1 to 16
Standard Voltage: ±10 V
Max Voltage: ±48 V
Current: 1 pA to 150 A
EIS: Up to 7 MHz

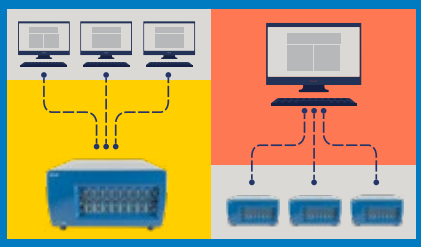
Multichannel

Bipotentiostat

Single channel

Ethernet capability for increased flexibility/improved group working

Share an instrument's channels via multiple PCs, or share multiple instruments from your PC.



The most comprehensive and user-friendly software available:

EC-Lab® is widely regarded as the benchmark control and analysis software by scientists across the globe. As simple to use as it is powerful, EC-Lab® offers a wide range of unique functionality that can help drive your projects forward.

Preset or bespoke techniques
80+ techniques

Integrated graphics
Customize graphs within EC-Lab®

Experiment sequence builder
Build sequential experiments based on conditional limits

External device control
(multiple devices)

Extensive analysis functionality
Including Z Fit for advanced EIS modeling

No need to plan experiments
Modify measurements "on the fly"

SP-200: Single channel, compact potentiostat

- A research-grade instrument that does not substitute value for quality
- Perfect for corrosion/electroanalysis with the 100 fA accuracy ultra-low current option
- Compact footprint: perfect for in-situ measurements

Channel capability: 1
Voltage: ±10 V
Current: 500 mA down to 100 fA

SP-300: Fast, sensitive and modular

- Capable of generating any bipot measurement, including Rotating Ring Disk Electrode (RRDE) and InterDigitated Array (IDA) electrodes
- Second slot for 10 A capable internal booster (one channel can be used as booster)
- Analog voltage scan of up to 1 MV/s with acquisition time down to 1 µs
- CE to Ground mode: perfect for RRDEs & IDAs

Channel Capability: 2
Voltage: ±10 V
±48 V with booster
Current: 10 A down to 100 fA

SP-240: A powerful, research grade, potentiostat

- Perfect for battery testing or electrolysis with embedded 4 A booster.
- Compact footprint: perfect for *in-situ* measurements.

Channel capability: 1
Voltage: ±10 V. [-3;14]V with booster
Current: ± 4 A down to 100 fA

VSP-300: A state-of-the art research-grade potentiostat

Channel capability: 6
Voltage: ±10 V
±48V with booster
Current: 40 A down to 100 fA

- Features 6 slots for 1 to 6 channel boards
- Each channel board can connect to an ultra-low current cable and one of several high-current booster kits (up to 4 in parallel)
- The most compact multichannel electrochemical workstation with EIS available

VMP-300: The ultimate multichannel potentiostat

- The most modular BioLogic multichannel potentiostat: combine channels to meet specific needs, reach high currents, or drive multiple measurements simultaneously across all channels
- Highly versatile "do-it-all" instrument, suitable for all applications

Channel Capability: 16
Voltage: ±10 V
±48 V with booster
Current: 150 A down to 100 fA

BP-300: High-performance bipot, perfect for RRDEs & IDAs

- Capable of generating any bipot measurement, including Rotating Ring Disk Electrode (RRDE) and InterDigitated Array (IDA)
- Analog voltage scan of up to 1 MV/s with an acquisition time down to 1 µs
- CE to Ground mode: perfect for RRDEs & IDAs
- 2 A Internal booster supplied as standard (another slot available for additional booster if required)

Channel Capability: 2
Voltage: ±10 V.
±30 V with booster
Current: 10 A down to 100 fA

Full specifications for boosters, low current options and ARG can be found on the next page

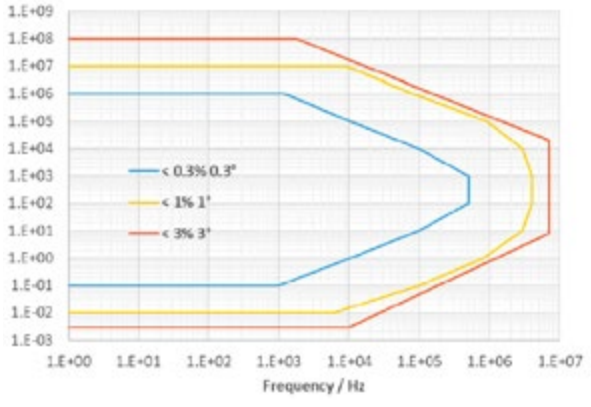
Add-ons: Customize your potentiostat to match your field of interest.

Modules by potentiostat

Options	Specification	Application	SP-200	SP-240	SP-300	BP-300	VSP-300	VMP-300
Built in EIS	Up to 7 MHz EIS. Quality Indicators included.	To characterize internal resistance, faradaic impedance & diffusion process. Research into materials science	✓	✓	✓	✓	✓	✓
Ultra Low current option	Down to 1 pA range	Provides 100 fA accuracy, for analytical electrochemistry, corrosion & material characterization. Combined with the EIS option, it enables high impedance cells up to 1 TOhm.	✓	✓	✓	✓	✓	✓
Internal booster	±1 A to ±48 V ±2 A to ±30 V ±4 A between -3 & +14 V ±10 A between -1 & 6 V	Battery, supercapacitor, fuel cell, electroplating & electrolysis, supercapacitor or fuel cell characterization. Battery testing, battery pack characterization. Large battery cells, supercapacitors, or fuel cell characterization	N/A	4 A included	✓	1 x 2 A/30 V included	✓	✓
External booster	±30 A to ±48 V		✓	✓	✓	✓	✓	✓
ARG	Scan rate of 1 MV/s	The ARG allows you to detect species with a short lifetime, or to characterize capacitive cells such as supercapacitor or electrocatalysis measurements.	✓	✓	✓	included	✓	✓

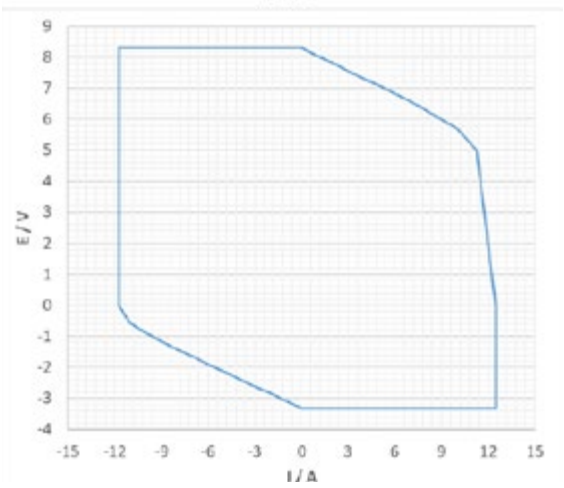
Contour plots.

EIS contour plot



Premium channel board contour plot (example applicable to rest of Premium Potentiostat range)

10 A Internal booster



Contour plot demonstrating the high-power operating area of the 10 A/6 V internal booster

Future-proofed potentiostats
Upgrade your own instrument, quickly, in your lab.
So your potentiostat grows with your needs.

Channel Specifications

Features		Premium Specification
EIS capability		10 µHz to 7 MHz
Analog Ramp Generator		Yes (1 MV/s), sampling rate 1 µs
Floating option		Yes
Filters		Analog/digital
Acquisition time		12 µs (1 µs with ARG option)
Electrode connections		2, 3, 4, 5
IR compensation		Manual, EIS, current interrupt (software and hardware)
Current		
Maximum current		±500 mA
Current ranges	with standard board	9: 10 nA to 1 A
	with low current option	13: 1 pA to 1 A
Lowest accuracy	with standard board	±100 pA on 10 nA range
	with low current option	±100 fA on 1 pA range
Lowest resolution	with standard board	0.8 pA on 10 nA range
	with low current option	80 aA on 1 pA range
Current booster	internal	1 A, 2 A, 4 A, 10 A,
	external	Premium External: HCV-3048 (30 A/48 V)
Input impedance		1 TΩ (//10 pF), ULC: 100 TΩ (//6 pF)
Voltage		
Compliance		±12 V
Max applied potential		±10 V (±48 V with 1 A/48 V booster)
Resolution		1 µV on 60 mV
Accuracy		< ±1 mV
Maximum scan rate		200 V/s (1 MV/s with ARG option)

Only with EC-Lab®

Modify-on-the-fly

No need to plan experiments – you modify as you go, giving you increased flexibility, easier management of long-term experiments and easier set-ups.

Full Cell Control

Measure (not only control) the voltage between positive and negative electrodes for batteries and fuel cells, just as you do with current.

Temperature Control Server

Manage climatic chambers from EC-Lab®, allowing users to perform automatic cycling with complex temperature profiles

Z inst

Compensate for drift during EIS measurements, for example, battery or specimens for corrosion studies

Booster Specifications

	±1 A/±48 V	±2 A/±30 V	±4 A/[-3;14] V	±10 A/[-1;6] V	±30 A/[0;48] V
Current					
Compliance	±1 A	±2 A	±4 A	±10 A	±30 A (±120 A with 4 units)
Accuracy	< 2 mA on 1 A range	< 4 mA on 2 A range	< 8 mA on 4 A range	< 60 mA on 10 A range	< 240 mA on 30 A range
Voltage					
Compliance	±49 V	±30 V	-3 V ; +14 V	-1 ; +6 V	0 ; +48 V
Control	±48 V	±30 V	-3 V ; +10 V	-1 ; +6 V	0 ; +48 V
Features					
EIS frequencies	2 MHz - 10 µHz	1 MHz - 10 µHz	1 MHz - 10 µHz	1 MHz - 10 µHz	500 kHz - 10 µHz
Bandwidth (-3 dB)	> 2 MHz	> 3 MHz	> 4 MHz	> 8 MHz	800 kHz
Slew rate (no load)	> 15 V/µs	50 V/µs	50 V/µs	50 V/µs	> 20 V/µs
Rise/fall time (no load)	< 250 ns	< 200 ns	< 200 ns	< 200 ns	< 3 µs
Floating mode	Yes	Yes	Yes	Yes	Yes
Parallel ability	No (Yes with new version)	Yes	Yes	Yes	Yes up to 4
Connection (terminal leads)	2, 3, 4, 5	2, 3, 4, 5	2, 3, 4, 5	2, 3, 4, 5	2, 3, 4

Chassis Specifications

Premium	SP-200	SP-240	SP-300	BP-300	VSP-300	VMP-300
Channels available	1	1	2	2	6	16
Interfaces	Ethernet, USB 2.0	Ethernet, USB 2.0	Ethernet, USB 2.0	Ethernet, USB 2.0	Ethernet, USB 2.0	Ethernet, USB 2.0
Dimension H x W x D/mm	167 x 410 x 225	205 x 410 x 225	205 x 410 x 225	254 x 517 x 337	254 x 517 x 337	534 x 565 x 315
Weight	7.2 kg	7.5 kg	7.5 kg	20 kg	20 kg	30 kg
Power Requirement	350 W	350 W	350 W	650 W	650 W	1500 W

A potentiostat for every possible application.

ENERGY STORAGE & CONVERSION
Batteries
Fuel cells & electrolyzers
Supercapacitors
Photovoltaics
Redox Flow Batteries
RESEARCH ELECTROCHEMISTRY
Analytical Electrochemistry
Sensors
Corrosion
MATERIAL SCIENCE

With the largest, most comprehensive range of potentiostats of any manufacturer, you can be sure to find a BioLogic instrument that suits your application.

Here to help.

Online/offline - wherever you are...

BioLogic prides itself in the quality of its potentiostats. We build robust, reliable instruments designed to withstand the rigors of time and the laboratory. But if you do ever encounter a problem with your instrument, you can rest assured that our global support network will be close at hand to help find you a solution quickly and effectively.

And if you just need more information, or perhaps just a little inspiration to help you with your project, you can browse our ever-growing support database of over 500 Learning Centre articles, application/technical notes and support videos at **www.biologic.net.**

Innovation.

Innovation is engrained in our commercial DNA. The first multi-channel computer-controlled potentiostat (MacPile, 1991), Ethernet connectivity and Embedded EIS are just some of the BioLogic innovations helping scientists around the globe. Our high-quality, high-performance instruments have played a pivotal role in leading research projects since 1983.

www.biologic.net/about us

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