

# GalvanoPlot

Compact Multi Channel Electrochemical Interfaces



**The smallest two channel electrochemical interface on the market**

GalvanoPlot digital multi-channel potentiostats are the smallest portable potentiostats in the market and optimized for **low potential on-chip electrochemistry** applications. It provides most relevant electro-analytical measurement techniques and works with the GalvanoPlot Controller PC software.

GalvanoPlot is an ideal introductory level potentiostat for starting out in electrochemistry or educational purposes with a great satisfactory performance.

#### Main Applications

- Training and courses for students in electrochemistry
- Demonstration experiments
- Electrochemical research
- Sensor development experiments
- Reaction kinetics experiments in electrochemistry

GalvanoPlot two channel potentiostats are offered in three different settings, where all compatible with cells with 2, 3 and 4 electrodes sensors (common RE and AE and also completely independent\*). Hardware is optimized for glass chip thin-film electrodes and screen-printed electrodes and also compatible with a variety of experimental conditions.

#### Supported Techniques

Staircase Voltammetry	SCV
Linear Sweep Voltammetry	LSV
Cyclic Voltammetry	CV
Square Wave Voltammetry	SWV
Differential Pulse Voltammetry	DPV
Stripping Voltammetry	ASV, CSV
Amperometry	AD
Chronoamperometry	CAD
Pulsed Amperometry	PAD
Differential Pulsed Voltammetry	SV

#### Compatible Electrochemical Cell Designs

Single, 2 electrodes	WE and RE-AE
Single, 3 electrodes	WE, RE and AE
Single, 4 electrodes	WE1, WE2, RE and AE
Dual, 2 electrodes	Common RE-AE
Dual, 3 electrodes	Common RE and Common AE
Dual, 3 electrodes	Independent*

\*: Only GPE203 and GPEOEM1



coralbiotec

In a **poly-potentiostat (GP series)**, one can run same protocol on both working electrodes, semi-synchronously (with only 100µsec lag), but where AE and RE are common. In GP201, both WE1 and WE2 can only have the same potential, while in GP202, WE2 can also be set to a constant potential or a bias in reference to WE1.

In is a **multiplexed-potentiostat (GX series)**, independent protocols can be performed on any working electrodes, but only in order: The second one runs after the first one is completed.

Hardware Specifications	GP201	GP202	GX202
Channels	Two, Parallel	Two, Independent	Two, Multiplexed
Scan Range	± 2 V	± 2 V	± 2 V
Current Range	5 µA -500 µA typ.	5 µA -500 µA typ.	200 nA -10 mA typ.
Max. Current	0.5 mA typical	0.5 mA typical	10 mA
Current Resolution	1 nA min.	1 nA min.	14 pA min.
Potential Resolution	1 mV min.	1 mV min.	100 µV min.
Sensor Connector	4 pin banana w crocs	4 pin shielded	4 pin shielded
Sensor Compatibility	2, 3 and 4 electrodes		
Power	5 VDC over USB		
Size	48 x 37 x 23 mm (smallest on the market)		
Enclosure	Anodized aluminum and stainless steel		

**Electrochemical Impedance Spectroscopy** is available in **GPE and GXE series**, as a poly-potentiostat, or multiplexed-potentiostat, respectively. GXE1602 can run independent protocols on 16 cells with commons RE and AE. GPE203 can also run independent protocols on cells with independent RE and CE.

Hardware Specifications	GXE202	GXE1602	GPE203
Channels	Two, Multiplexed	16, Multiplexed	2, Independent
Scan Range	± 2 V	± 2 V	± 2 V
Current Range	200 nA -10 mA typ.	200 nA -10 mA typ.	100 nA -5mA typ.
Max. Current	10 mA	10 mA	5 mA
Current Resolution	14 pA min.	14 pA min.	5 pA min.
Potential Resolution	100 µV min.	1 mV min.	280 µV min.
EIS	Up to 200KHz	Up to 200KHz	Up to 200KHz
Compatible	2x (WE, RE-AE) with common RE-AE		2x (WE, RE-AE)
Sensor Designs	2x (WE, RE and AE) with common RE and AE 1x(WE1, WE2, RE and AE)		2x (WE, RE and AE) or 1x(WE1, WE2, RE and AE)
Sensor Connector	4 pin shielded	68 pin shielded	6 pin shielded
Power	5 VDC over USB		
Size	48 x 37 x 23 mm**		
Enclosure	Anodized aluminum and stainless steel		

\*\* : smallest on the market

GalvanoPlot is also offered as **GPEOEM**, where all the capability of GPE203 is packed in a 26x10x4mm micro shielded SMT device, for the ones who want to develop their own Electrochemical Analysis Device. A dedicated method can be developed over GPE203 and can directly be embedded in GPEOEM for **autonomous OEM** functioning.

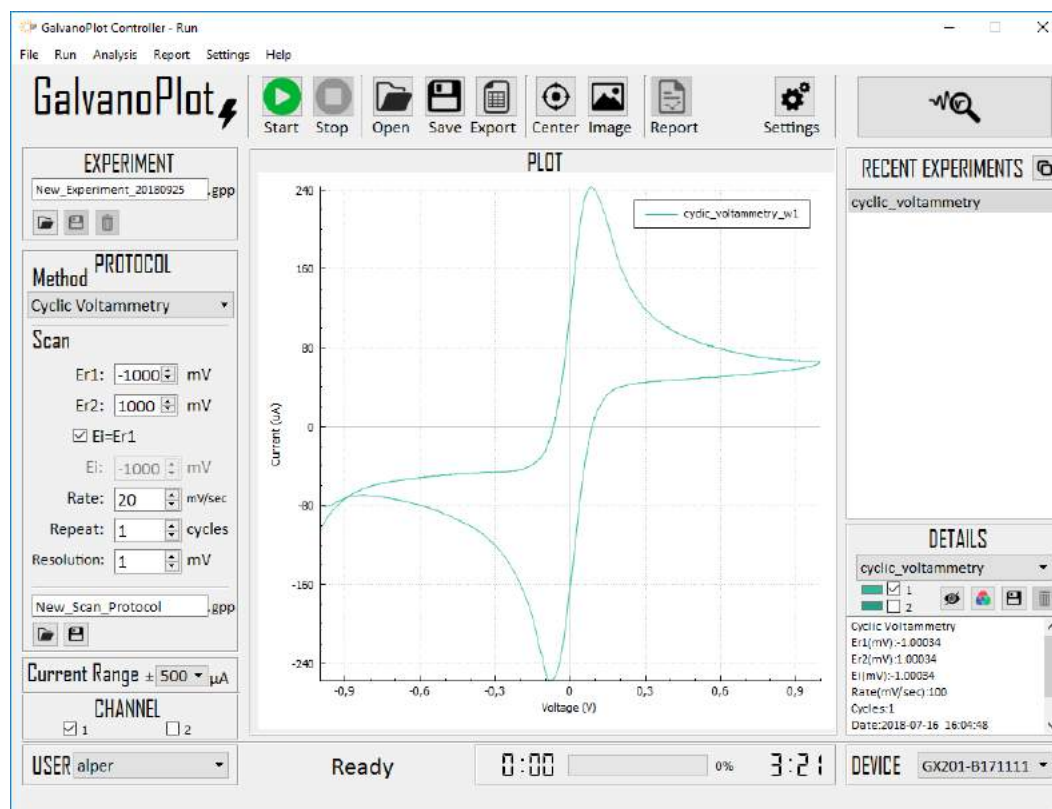
Hardware Specifications	GPEOEM1
Channels	2, Independent
Scan Range	± 2 V
Current Range	100 nA -5mA typ.
Max. Current	5 mA
Current Resolution	5 pA min.
Potential Resolution	280 µV min.
EIS	Up to 200KHz
Sensor Connector	SMD mount
Sensor Compatibility	2, 3 and 4 electrodes
Power	3.3-7 VDC
Size	26x 10 x 4 mm**
Enclosure	Copper shield

\*\* : smallest on the market

Both GP and GE models are available with a variety of sensor connectors and shielded sensor cables. While Banana 2 mm connectors with removable crocodile clips and connectors for 4, 6 and 68 pin shielded cables are standard options, sensor receptacles can be customized to user needs.



## GalvanoPlot Controller Software for PC



GalvanoPlot compact potentiostat interfaces are controlled by **GalvanoPlot controller PC software** through USB connection. Easy to use full graphic interface enables users to run protocols, visualize results, overlay and compare multiple experiments, save and load run protocols, analyze voltammetry results for peaks and calculate calibration curves with Pearson's  $R^2$  technique for method development. GalvanoPlot Controller has a multi-user and multi-device capability and runs on any platform with Windows 7 and newer with display resolution 1024x768 and over. You can plug-in upto 64 hardwares and interchange in-between over the software.

### PC Software specifications

- Windows 7+ compatibility
- User friendly graphic interface
- Save and load run protocol settings
- Multiple experiment overlay
- Easy add and remove experiments
- Real-time experiment duration
- Export for MS Excel or as Image
- Digital real-time FFT filter with auto-optimization
- CV and DPV peak analysis
- Calibration curve and  $R^2$  analysis
- Multiple devices and users



#### Standard Box Configuration

GalvanoPlot compact potentiostat

Sensor cable

USB cable for PC interface

GalvanoPlot Controller software autoinstaller for PC

Please inquire at [info@CoralBiotec.com](mailto:info@CoralBiotec.com) for prices, volume discounts and more detailed technical information about GalvanoPlot two channel compact electrochemical interfaces, as well as glass chip thin film electrode sensors, adapters and dummy test cells.



coralbiotec

## Ordering Information

### *Two channel potentiostats without EIS:*

<b>GP.201</b>	<b>Compact Bi-Potentiostat for on-chip electrochemistry</b>	<b>\$1,999</b>
---------------	---	----------------

Equipped with 8-bit microcontroller

Also including:

Sensor Cable (C.101)

USB cable for PC interface

GalvanoPlot Controller software autoinstaller for PC

<b>GP.202</b>	<b>Compact Bi-Potentiostat for on-chip electrochemistry</b>	<b>\$1,999</b>
---------------	---	----------------

Equipped with 8-bit microcontroller

Also including:

Sensor Cable (C.102 or C.103)

USB cable for PC interface

GalvanoPlot Controller software autoinstaller for PC

<b>GX.202</b>	<b>Compact Duplex Potentiostat for on-chip electrochemistry</b>	<b>\$1,999</b>
---------------	---	----------------

Equipped with 32-bit microcontroller

Also including

Sensor Cable (C.102 or C.103)

USB cable for PC interface

GalvanoPlot Controller software autoinstaller for PC

### *Two channel potentiostats with EIS:*

<b>GXE.202</b>	<b>Compact Duplex Potentiostat with EIS for on-chip electrochemistry</b>	<b>\$2,999</b>
----------------	--	----------------

Equipped with 32-bit microcontroller

Also including

Sensor Cable (C.101, C.102 or C.103)

USB cable for PC interface

GalvanoPlot Controller software autoinstaller for PC

<b>GPE.203</b>	<b>Compact Bi-Potentiostat with EIS for on-chip electrochemistry</b>	<b>\$2,999</b>
----------------	--	----------------

Equipped with Dual-Core 32-bit microcontroller

Also including

Sensor Cable (C.101, C.102 or C.103)

USB cable for PC interface

GalvanoPlot Controller software autoinstaller for PC

### *16 channel multiplex potentiostat with EIS:*

<b>GXE.1602</b>	<b>Compact 16-Plex Potentiostat for on-chip electrochemistry</b>	<b>\$3,999</b>
-----------------	--	----------------

Equipped with 32-bit microcontroller

Also including

Sensor Cable (C.201 or C.202)

USB cable for PC interface

GalvanoPlot Controller software autoinstaller for PC

### *OEM Bi-Potentiostat Module with EIS:*

<b>GP.OEM.1</b>	<b>Compact Bi-Potentiostat Module with EIS for on-chip electrochemistry</b>	<b>\$799</b>
-----------------	---	--------------

Equipped with Dual-Core 32-bit microcontroller

*Accessories:*

<b>C.101</b>	<b>Bundle of 4 cables with 2 mm banana plugs</b>	<b>\$59</b>
Compatible with GP201		
<b>C.102</b>	<b>Shielded cable with bundle of 4 cables with 2 mm banana plugs</b>	<b>\$59</b>
Compatible with GP202, GX202, GXE202 and GPE203		
<b>C.103</b>	<b>Shielded cable for MicruX on-chip 4 electrode system</b>	<b>\$29</b>
Compatible with GP202, GX202, GXE202 and GPE203		
<b>C.201</b>	<b>Shielded cable for MicruX on-chip 16x4 electrode system</b>	<b>\$99</b>
Compatible with GXE1602		
<b>C.202</b>	<b>Shielded cable with bundle of 16x4 cables with 2 mm banana plugs</b>	<b>\$229</b>
Compatible with GXE1602		
<b>C.109</b>	<b>Banana plug to crocodile clips adapter set of 4</b>	<b>\$29</b>
Compatible with C.101, C.102 and C.202		
<b>C.099</b>	<b>USB Cable for PC Interface</b>	<b>\$29</b>
Compatible with all potentiostats		
<b>B.001</b>	<b>Dummy Cell for Test and Calibration</b>	<b>\$59</b>
Compatible with all potentiostats		
<b>W.001</b>	<b>USB Flash Drive including GalvanoPlot Controller Software Setup</b>	<b>\$29</b>
Compatible with all potentiostats		
<b>A.001</b>	<b>USB Development Board for OEM Module</b>	<b>\$1,999</b>
Including		
GPE.OEM1		
<b>A.002</b>	<b>Arduino Development Board for OEM Module</b>	<b>\$1,999</b>
Including		
GPE.OEM1		







**coral**biotec

Coral Biotechnology, Inc.  
1951 NW 7<sup>th</sup> Ave, Ste 300  
Miami, FL 33136  
info@coralbiotec.com

*[www.coralbiotec.com/galvanoplot.html](http://www.coralbiotec.com/galvanoplot.html)*



**coral**biotec