

micrux
TECHNOLOGIES



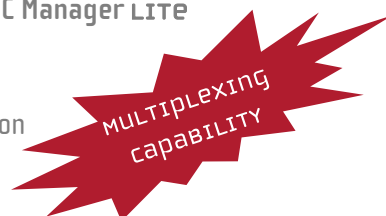
MicruX[®] ECSENS[®] _{BIPOT}
Ultra-compact BiPotentiostat



MicruX ECSens BIPOT (ref. ECSENS104/BIPOT) is the most compact and affordable **Electrochemical Sensing Interface**, integrating a miniature **bipotentiostat**, specially designed for using printed electrodes and other sensors.



- » **Dimensions:** 39 x 17 x 9 mm (L x W x H).
- » **USB-powered**
- » **Control PC software - MicruX EC Manager LITE**
- » **Interfacing:** USB-C
- » **LED indicator:** power on / cell on
- » **Potential range:** ± 1.5 V
- » **Current ranges:** 0,25 μ A to 12,5 mA (max. current: ± 5 mA)
- » **Operating mode:** bipotentiostat / potentiostat (multi-channel mode available)



A first-class **entry-level** ultra-compact **bipotentiostat** for electrochemical studies, development of biosensors and many other applications.

» MicruX[®] ECSens – Available Techniques

ECSens includes the most common electroanalytical techniques for a true on-site voltammetric and amperometric analysis.

Voltammetry

CV	Cyclic Voltammetry
LSV	Linear Sweep Voltammetry
DPV	Differential Pulse Voltammetry
NPV	Normal Pulse Voltammetry
SWV	Square Wave Voltammetry

Amperometry

AD	Amperometry (Single-potential)
CA	Chronoamperometry (Multi-step)

Potentiometry

PSA	Potentiometric Stripping Analysis
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Voltammetric and amperometric methods can be used in BIPOT mode

» MicruX[®] ECSens - Standard Pack

Basic content:

- » ECSens ultra-compact bipotentiostat
- » Sensor interface for MicruX screen-printed electrodes (S1PE/D2PE)
- » Electrode Pack (50 units ED-S1PE-C)
- » USB adaptor (USB-C Female to USB-A male)
- » USB extension cable
- » Dummy cell
- » MicruX[®] EC Manager software LITE





» MicruX[®] ECSens features

General

» DC-potential range	$\pm 1.5 \text{ V}$
» Compliance voltage	$\pm 2.65 \text{ V}$
» Maximum current	$\pm 5 \text{ mA}$

Potentiostat

» Applied DC-potential resolution	$250 \mu\text{V}$
» Applied potential accuracy	$\leq 0.1\%$
» Current ranges	$0,25 \mu\text{A}$ to $12,5 \text{ mA}$ (5 ranges)
» Current accuracy	$\leq 0.1 \%$ (at Full Scale Range)
» Measured current resolution	0.002% of current range (5 pA on $0,25 \mu\text{A}$ range)

Multi-channel mode

» Multiplexing	Up to 256 devices (PC software control)
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Other

» Housing	Aluminum case: $39 \times 17 \times 9 \text{ mm}^3$
» Weight	$< 5 \text{ g}$
» Power supply	USB (5 VDC / 20 mA max.)
» Communication	USB-C

» MicruX[®] ECSens - Measurement Specifications

General Parameters

Potential range	-1.5 V to $+1.5 \text{ V}$
Step potential	0.8 mV to 250 mV
Pulse potential	0.8 mV to 250 mV
Quit time	$0 - 36.000 \text{ s}$

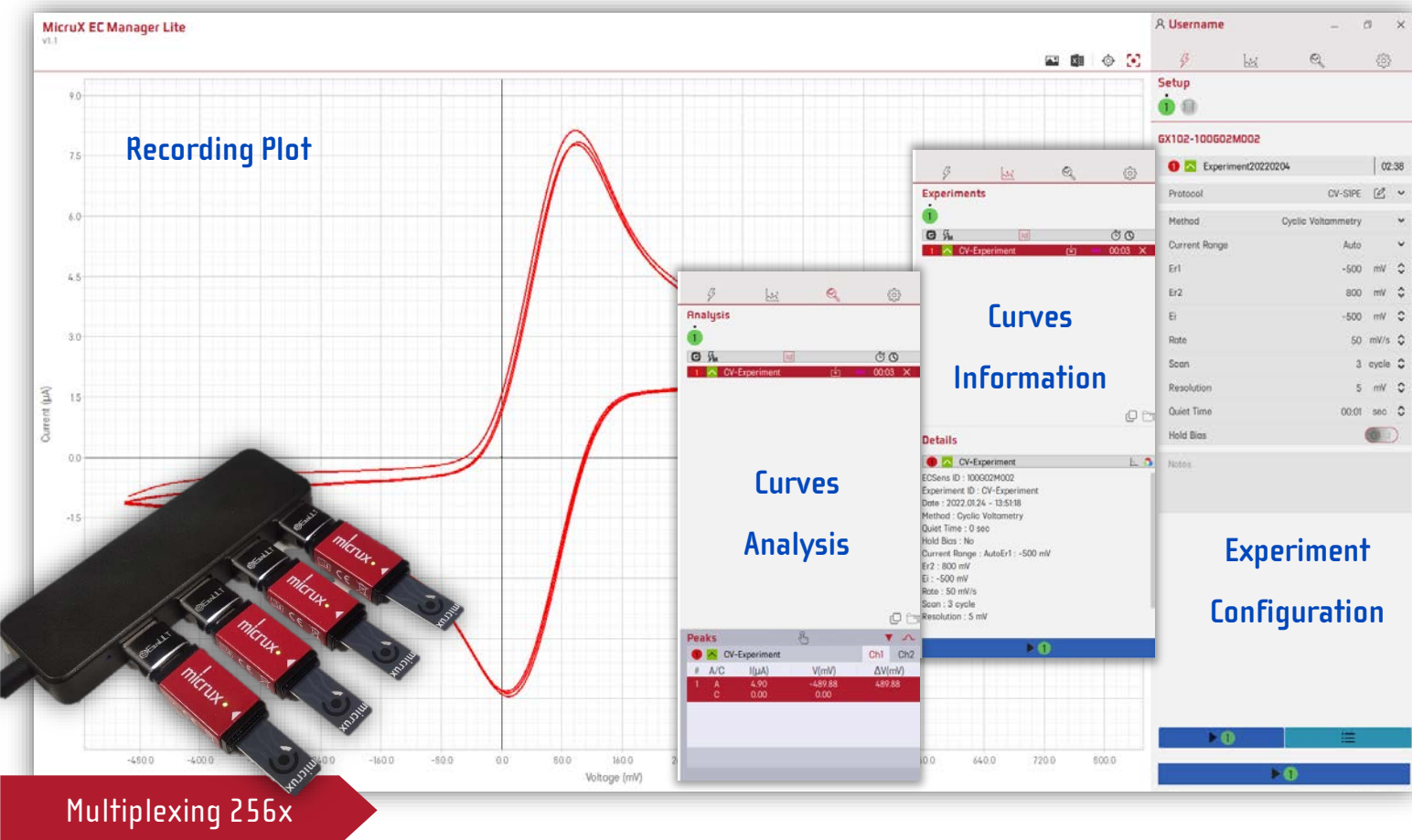
Specific Parameters

CV, LSV	Scan rate:	0.001 mV/s to 50 V/s
DPV, NPV	Scan rate:	0.03 mV/s to 50 V/s
	Pulse time:	1 ms to 36 s
SWV	Frequency:	1 mHz to 500 Hz
AD, CA, PSA	Interval time:	1 ms to 1000 s
	Maximum run time:	$60\,000\,000 \text{ s}$ (several hours)
BIPOT Mode	Potential limit:	$\pm 1,5 \text{ V}$

Note: Specifications subject to change without prior notice



MicruX[®] EC Manager_{LITE} is the basic graphical user interface for the control of the device from a PC, enabling real-time plotting, storage and analysis of the results. Moreover, the software enables control of multiple devices from same screen and at the same time, setting up parallel replicates and spools for multiplexing analysis.



- » Multiple curve options: Load, Overlay, Export to Excel/Image
- » Experiment spooling: set up sequential multi-experiments
- » Multichannel option: *multiplexing* control up to 256 devices
- » Curves analysis / Peaks search



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