Compact Electrochemical Instruments

Presented by Homiangz LLC (http://www.homiangz.com, http://www.universeneeds.com)

- Do you notice that the high-end electrochemical workstations that cost you a lot are mostly used for regular voltammetric techniques, such as CV, DPV, and SWV etc.? As a matter of fact, to perform these electrochemical analysis techniques does not need high-end instruments at all! Rather, they can be achieved with regular voltammetric instruments. The result would be no difference.

- If your lab is crowded and even if you have more than one electrochemical workstation, do you yet feel that the instruments are inadequate while everyone is doing a test? In such a lab, the combination of one high-end electrochemical workstation plus multiple regular ones is the most optimal arrangement.

- If you do not focus on electrochemical research but use it for electrochemical characterization, do you feel it is too complicated to set up a high-end electrochemical instrument? At this point, an easily operable instrument is right what you need.

- Do you need electrochemical instrument only for education? If so, price might be one of the most important factors in your mind; do you need it to be compact and portable as well?

uEA is designed to right meet the demands described above. It is suitable for education, research and industrial application where portability is desired. *u*EA is compact, portable, USB powered and plug-and-play with commonly used electrochemical techniques integrated. It comes with Windows-oriented user-friendly interface and multiple data operation functions for ease of use. The integrated instruments are classified into two models: Base model and Enhanced Model. Base model is equipped with functions that fulfill general use; Enhanced model has more functions than Base model, including stripping analysis. You are welcome to contact us for detailed technical information and quotes.

Contact information

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Technical support

We provide the original user/buyer of uEA series with replacement (once only) within the first year and maintenance service within the first three years.

PC requirements

The software is compatible with 32-bit Windows operation systems and works with commonly used PCs (including laptops).

100B Series Technical Specs: (100B/102B/104B/120B/130B)

Parameter	Specification	Parameter	Specification
Potential range	±2.4V	Current accuracy	< 0.2 % (100 nA ~ 10 mA)
Compliance voltage	±6V		< 1% (1nA ~ 100nA)
Current range	±10mA	Current resolution	< 1pA
Reference input impedance	1 x $10^{12}\Omega$	CV/LSV scan rate	10uV/s ~ 10V/s
Function generation	12 bit @ 100kHz	CA/CC pulse width	10ms ~ 100s
Potential accuracy	0.1% ±2mV	DPV/NPV pulse width	10ms ~100s
Potential resolution	1mV	SWV frequency	1 ~ 1000Hz
Potential rising time	10μs	IMP frequency	
Data acquisition	12 bit @ 100kHz	Dimensions	10cm x 6.4cm x 2.4cm
Sensitivity scale	1nA ~ 10mA in 8 ranges	Weight	~ 150g

100C Series Technical Specs: (100C/102C/104C/120C/130C/150C/160C)

Parameter	Specification	Parameter	Specification
Potential range	±2.4V	Current accuracy	< 0.2 % (100 nA ~ 10 mA)
Compliance voltage	±6V		< 1% (1nA ~ 100nA)
Current range	±10mA	Current resolution	< 0.1pA
Reference input impedance	1 x $10^{12}\Omega$	CV/LSV scan rate	10μV/s ~ 100V/s
Function generation	16 bit @ 100kHz	CA/CC pulse width	10ms ~ 100s
Potential accuracy	0.1% ±2mV	DPV/NPV pulse width	10ms ~100s
Potential resolution	75μV	SWV frequency	1 ~ 1000Hz
Potential rising time	10μs	IMP frequency	10mHz ~100KHz
Data acquisition	16 bit @ 100kHz	Dimensions	10cm x 6.4cm x 2.4cm
Sensitivity scale	1nA ~10mA in 8 ranges	Weight	~ 150g

300C Series Technical Specs:

- Potential range: ±10V
- Potential rising time: <1us
- Compliance voltage: ±15V
- 2-, 3- and 4-electrode configuration
- Current range: 2A
- Reference electrode input impedance: $1x10^{12}$ Ohm
- Sensitivity: 1×10^{-9} A ~ 1A in 10 ranges
- Input bias current : <50pA
- Current measurement resolution: <0.1pA
- Minimal potential increment in CV: 0.1mV
- Potential update rate: 100kHz
- Data acquisition: 16 bit @ 100kHz
- CV/LSV scan rate: 1uV/s ~ 1,000V/s
- Potential scanning increment: 1mV@100V/s
- CA/CC pulse width: 0.01 ~ 1,000sec
- CA/CC # of steps: 320
- DPV/NPV pulse width: 0.0001 ~ 10sec
- SWV frequency: 1 ~ 1kHz
- ACV frequency: 0.1 ~ 1kHz
- SHACV frequency: 0.1 ~ 1kHz
- IMP frequency:
- Automatic zero adjustment of potential and current
- Manually and automatically settable low-pass filters for both potential and current covering 8 orders of magnitude of frequencies
- Dimensions: 35(cm) x 35(cm) x 15cm
- Weight: 8kg

Functions Integrated in uEA 100B Series

Model	100B	102B	104B	120B	130B
Potentiostatic (linear potential)					
Potentiostatic I-t (I-t)	●	●	●	●	●
Linear scan voltammetry (LSV)	●	●	●	●	●
Cyclic voltammetry (CV)	●	●	●	●	●
Tafelgraph (TAFEL)				●	●
Potentiostatic(pulse and step potential)					
Chronoamperometry (CA)	●	●	●	●	●
Chronocoulometry (CC)		●	●	●	●
Staircase voltammetry (SCV)				●	●
Differential pulse voltammetry (DPV)			●	●	●
Normal pulse voltammetry (NPV)				●	●
Differential normal pulse voltammetry (DNPV)				●	●
Square wave voltammetry (SWV)			●	●	●
Multi-potential steps (MPS)				●	●
Stripping analysis					
Linear scan stripping analysis (LSSV)					●
Square wave stripping voltammetry (SWSV)					●
Differential pulse stripping voltammetry (DPSV)					●
Potentiostatic stripping analysis (PSA)					●
Other					
Open circuit potential-time (OCPT)	●	●	●	●	●
Number of functions	4	5	7	12	16
Price ($)*					

*Price excludes PC and is in US dollar for US continental, Canada, and the US islands. Sale tax and shipping/handling are plus. For international purchase, tariff is charged additionally. Price may change over time.

Functions Integrated in uEA 100C Series

Model	100C	102C	104C	120C	130C	150C	160C
Potentiostatic (linear potential)							
Potentiostatic I-t (I-t)	●	●	●	●	●	●	●
Linear scan voltammetry (LSV)	●	●	●	●	●	●	●
Cyclic voltammetry (CV)	●	●	●	●	●	●	●
Tafelgraph (TAFEL)				●	●	●	●
Potentiostatic (pulse and step potential)							
Chronoamperometry (CA)	●	●	●	●	●	●	●
Chronocoulometry (CC)		●	●	●		●	●
Staircase voltammetry (SCV)				●	●	●	●
Differential pulse voltammetry (DPV)			●	●	●	●	●
Normal pulse voltammetry (NPV)				●	●	●	●
Differential normal pulse voltammetry (DNPV)				●	●	●	●
Square wave voltammetry (SWV)			●	●	●	●	●
Multi-potential steps (MPS)				●	●	●	●
Stripping analysis							
Linear scan stripping analysis (LSSV)					●	●	●
Square wave stripping voltammetry (SWSV)					●	●	●
Differential pulse stripping voltammetry (DPSV)					●	●	●
Potentiostatic stripping analysis (PSA)					●	●	●
Galvanostatic							
Galvanostatic P-t (P-t)						●	●
Chronopotentiometry (CP)						●	●
Current scan chronopotentiometry (CSCP)						●	●
Multi-current stepping (MCS)						●	●
Impedance and AC voltammetry							
AC impedance (IMP)							●
Impedance-Time (IMPT)							●
Impedance-potential (IMPP)							●
AC voltammetry (ACV)							●
2nd Harmonic AC voltammetry (SHACV)							●
Other							
Open circuit potential-time (OCPT)	●	●	●	●	●	●	●
Number of functions	5	6	8	13	16	21	26
Price ($)*							

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