Datasheet

Potentiostat/ Galvanostat

For fuel cell stacks, electrolyzers and batteries
EIS Acquisition

Potentiostat Ultimate

PTCu-10100EW

PTCu-1020E | PTCu-0550E | PTCu-1050EW | PTCu-05100EW

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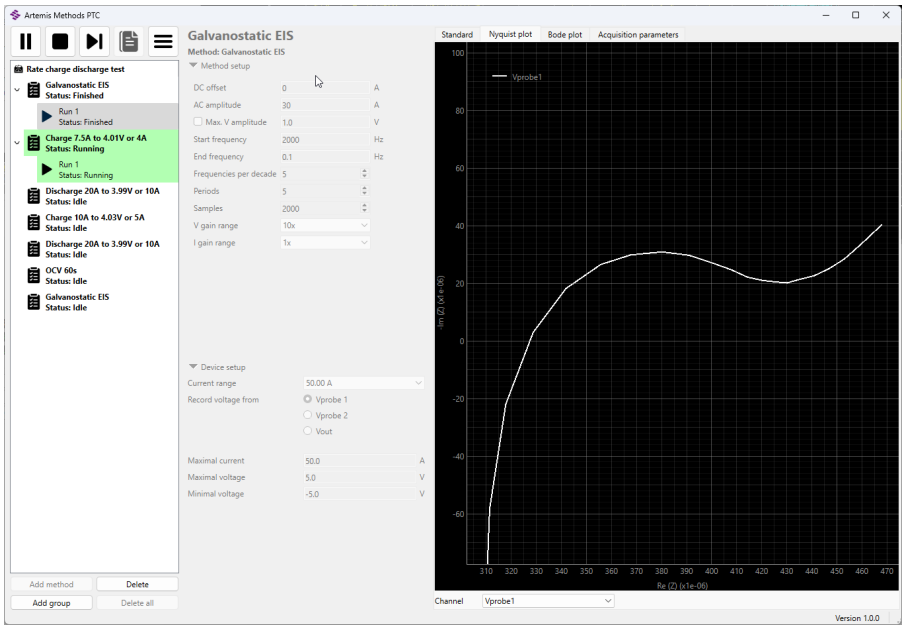
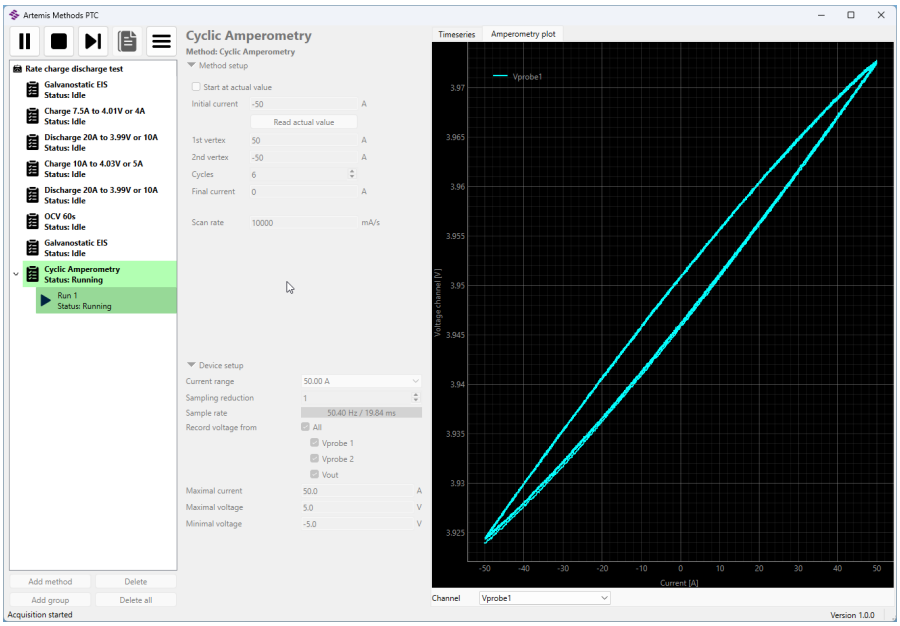
Applications

The **Potentiostat Ultimate Line** brings true parallel **MegaEIS™ architecture** to high-power electrochemical applications, including advanced fuel cells, electrolyzers, and batteries. It delivers **up to ±100 A** while utilizing **3 independent measuring channels** for simultaneous **high-speed data acquisition up to 1.25 Msps**.

All models are fully driven by **Artemis measurement software**, ensuring robust PC-controlled workflows. This enables advanced cycling, custom high-speed method sequencing, and full scripting to automate complex experimental procedures.



Artemis – Kolibrik Measurement Software – EIS



Artemis – Kolibrik Measurement Software – Cyclic Amperometry

Technical Parameters

	PTCu-1020E	PTCu-0550E	PTCu-1050EW	PTCu-05100EW	PTCu-10100EW
Power supply	110 … 240 V AC / 50 … 60 Hz				
Dimensions / Weight	19" rack-mount, 4U; 440 mm (W) × 177 mm (H) × 358 mm (D) / 15 kg				5U; 223 mm (H) / 18,5 kg
Cooling	Air	Air	Water [1]	Water [1]	Water [1]
Protection rating	IP20				
Electrometer Input voltage range	-10 V … +10 V				
Compliance / Output voltage	-5 V … +10 V	-5 V … +5 V	-10 V … +10 V	-5 V … +5 V	-2 V … +10 V
Compliance / Output current	-20 A … +20 A	-50 A … +50 A	-50 A … +50 A	-100 A … +100 A	-100 A … +100 A
Max. internal power dissipation	300 W	350 W [2]	1000 W	1000 W	1000 W
Current ranges	20 mA, 200 mA, 2 A, 20 A	500 mA, 5 A, 20 A, 50 A	500 mA, 5 A, 20 A, 50 A	500 mA, 5 A, 20 A, 100 A	500 mA, 5 A, 20 A, 100 A
Sampling	24-bit ADCs, up to 1.25 Msps				
Measurement resolution	0.001% of selected range for ≤ 1 ksps sampling				
Accuracy	Voltage: ≤ 0.1% of range + 0.1% of reading Current: ≤ 0.1% of range + 0.5% of reading				
Acquisition methods	Constant V, I, Open circuit, Manual control, Linear Sweeps, Cyclic Voltammetry, Cyclic Amperometry, Electrochemical Impedance Spectroscopy (EIS), Chronoamperometry, Chronopotentiometry, Double Step Chronoamperometry, Double Step Chronopotentiometry, Current Interrupt, Square Pulse Potentiometry, Square Pulse Amperometry, High Frequency / Multiple Frequency Resistance High-Resolved Square Pulses, Pseudo-Random Binary Sequences, Current Interrupt High-Speed EIS during charge / discharge process Battery Diagnostic Procedures, Custom experiment sequences, Python scripting				
EIS channels	3 independent channels				
EIS frequency	1 mHz ... 100 kHz, limited use up to 1 MHz				
EIS amplitude	1 … 1000 mV, up to 10 A for < 1 kHz	1 … 1000 mV, up to 25 A for < 1 kHz	1 … 1000 mV, up to 25 A for < 1 kHz	1 … 1000 mV, up to 50 A for < 1 kHz	1 … 1000 mV, up to 50 A for < 1 kHz
PC connection	Ethernet, USB 2.0				
Software	Artemis Software for MS Windows, TCP Server, NI LabVIEW drivers, Python library and examples				

[1] Water cooling via standard lab/industrial chiller and fittings. A cooling chiller unit is available as optional extras upon request.

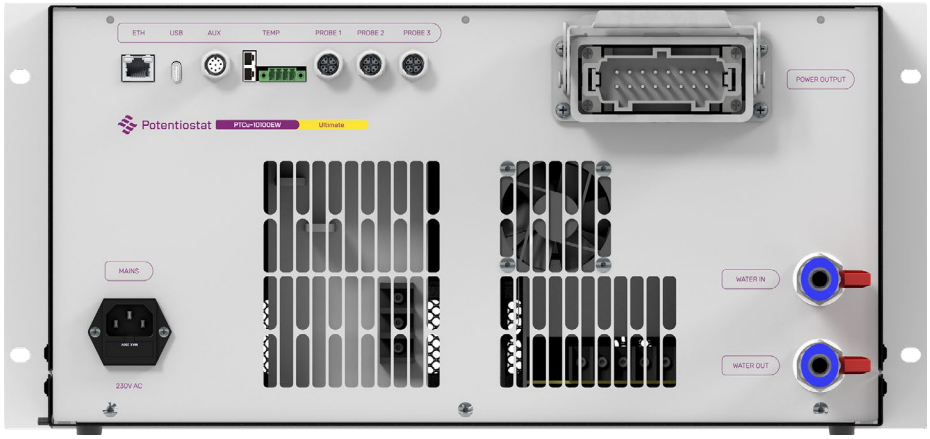
Note: To avoid building mineral deposits inside the copper tubes of the MegaEIS system, a **demineralized** water for the cooling is strictly recommended.

[2] 350 W continuous (air cooling, room temperature 25°C). Limitation in sink mode: 50 A for ≤2 V, 35 A for 2 … 5 V, 500 W peak (for 10 s)

Rear View

PTCu-1020E
PTCu-0550E

PTCu-1050EW
PTCu-05100EW



PTCu-10100EW