

Potentiostat/ Galvanostat

For fuel cell stacks, electrolyzers and batteries
EIS Acquisition

Potentiostat Product Family

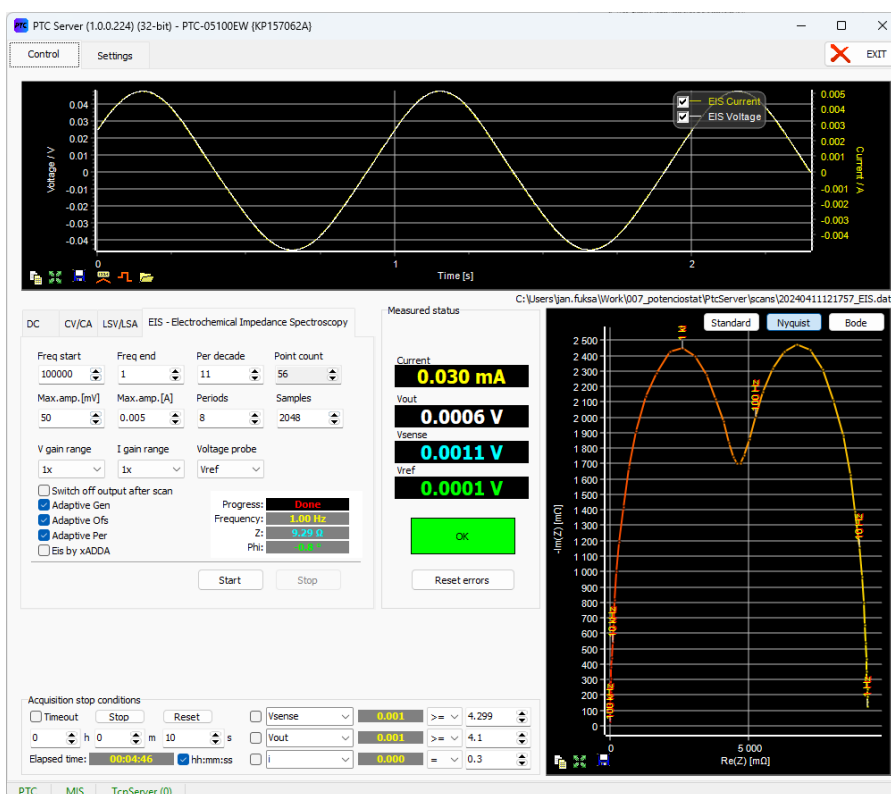


PTC-0520E | PTC-1020E | PTC-0550E | PTC-1050EW | PTC-05100EW

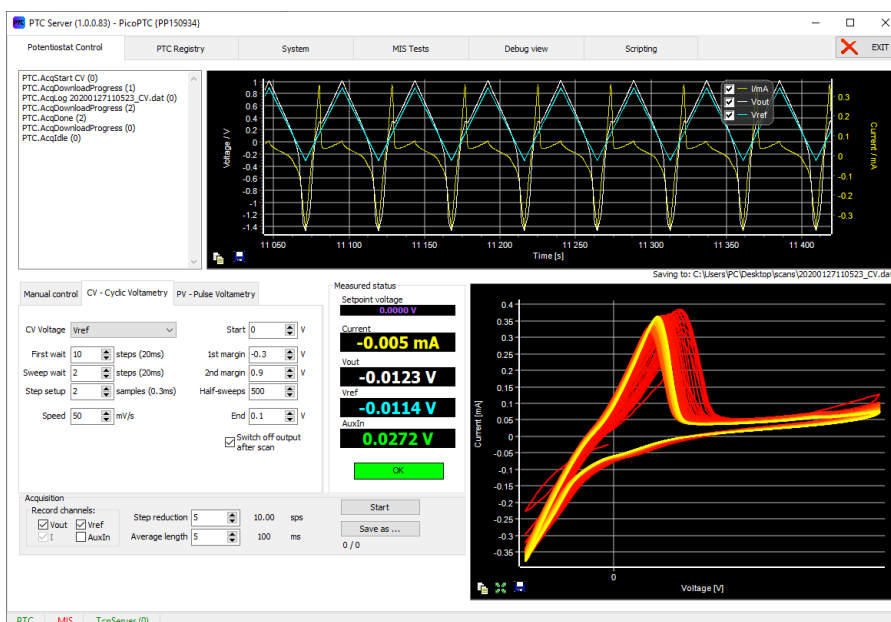


Applications

Typical applications include hydrogen fuel cells, water electrolyzers, solid-oxide cells, redox-flow batteries, and lithium batteries with high-current and high-power requirements. Additionally, EIS is utilized in applied research, manufacturing testing, and quality control.



Software PTC Server - EIS



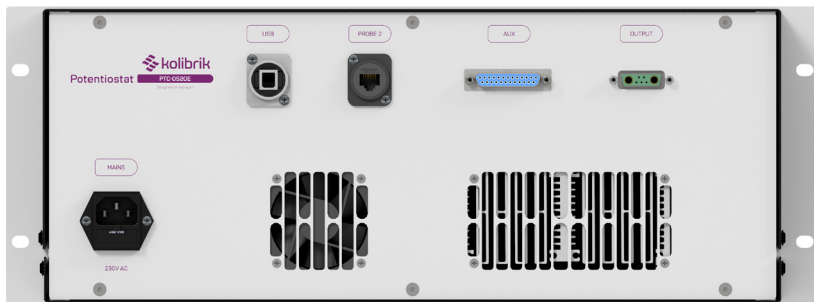
Software PTC Server - Cyclic Voltammetry



Technical Parameters

	PTC-0520E	PTC-1020E	PTC-0550E	PTC-1050EW	PTC-05100EW
Power supply	110 ... 240 V AC / 50 ... 60 Hz				
Dimensions	19" rack cabinet, 4U height				
Cooling	Air	Air	Air	Water	Water
Protection rating	IP20				
Electrometer Input voltage range	-10 V ... +10 V				
Compliance / Output voltage	-5 V ... +5 V	-5 V ... +10 V	-5 V ... +5 V	-10 V ... +10 V	-5 V ... +5 V
Compliance / Output current	-20 A ... +20 A	-20 A ... +20 A	-50 A ... +50 A	-50 A ... +50 A	-100 A ... +100 A
Max. internal power dissipation	200 W	300 W	350 W *)	1000 W	1000 W
Current ranges	20 mA, 200 mA, 2 A, 20 A	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, 50 A
Sampling	24-bit ADCs, 1 ksps internal, 50 sps filtered sampling 14-bit ADCs, up to 20 Msps for EIS measurements				
Measurement resolution	0.001% of selected range for ≤ 1 ksps sampling				
Accuracy	Voltage: $\leq 0.1\%$ of range + 0.1% of reading Current: $\leq 0.1\%$ 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, Battery Charge and Discharge, Custom experiment sequences, Python scripting				
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 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
PC connection	USB 2.0				
Software	Software for MS Windows, TCP Server, NI LabVIEW drivers, Python library and examples				

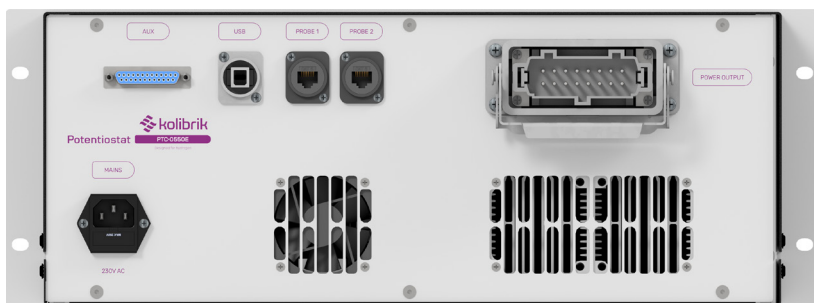
*) 350 W continuous (air cooling, room temperature 25°C)
limitation in sink mode: 50 A for ≤ 2 V, 35 A for 2 ... 5 V
500 W peak (for 10 s)



Rear view of PTC-0520E



Rear view of PTC-1020E



Rear view of PTC-0550E



Rear view of PTC-1050EW



Rear view of PTC-05100EW

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