

# Potentiostat Galvanostat

For fuel cell stacks, electrolyzers and batteries  
EIS Acquisition

Potentiostat Product Family



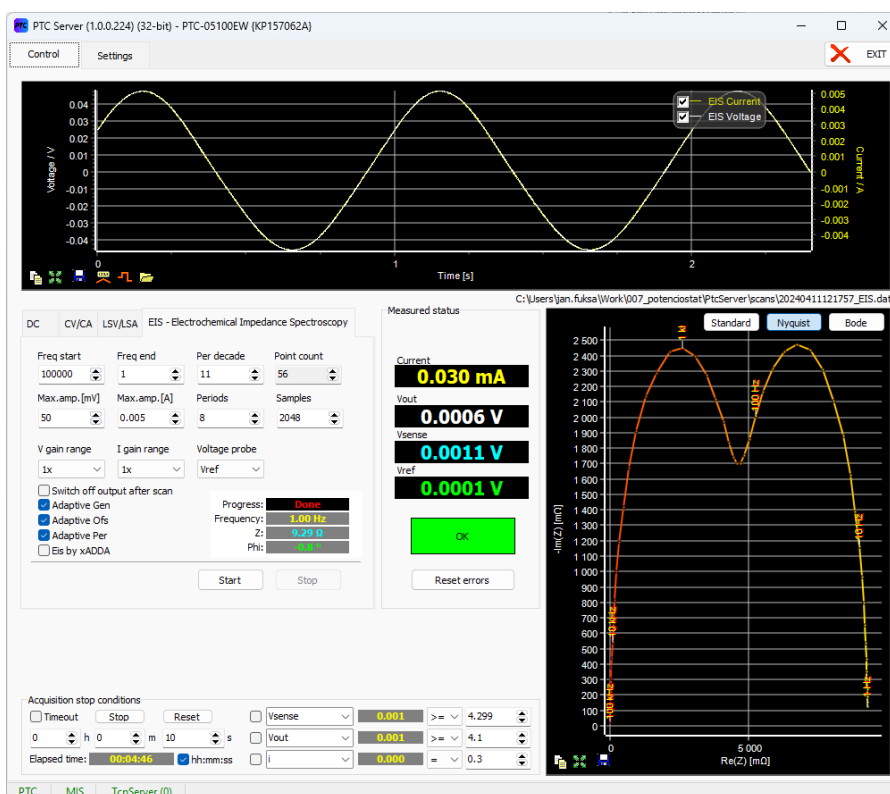
PTC-0520E | PTC-0550E | PTC-1050EW | PTC-05100EW



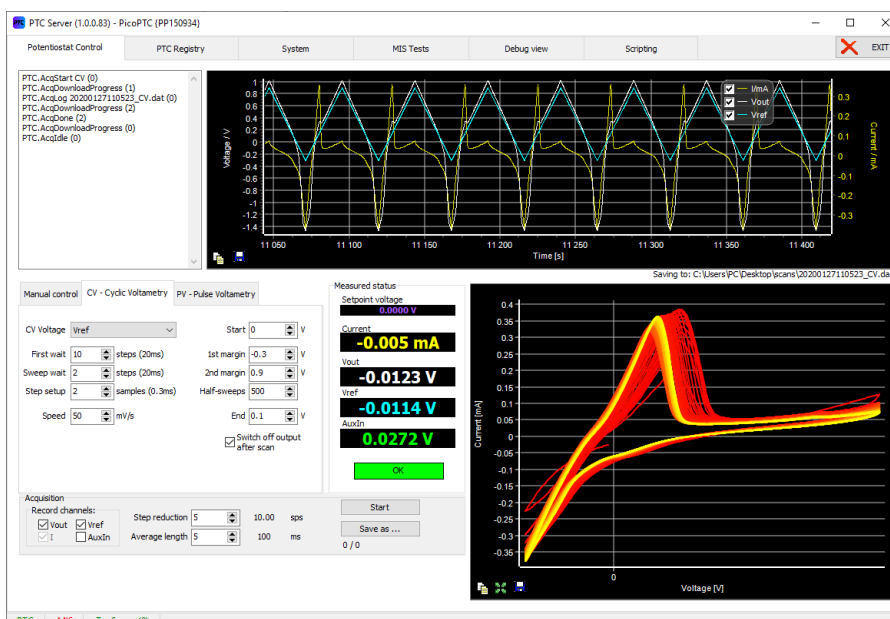


# Applications

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



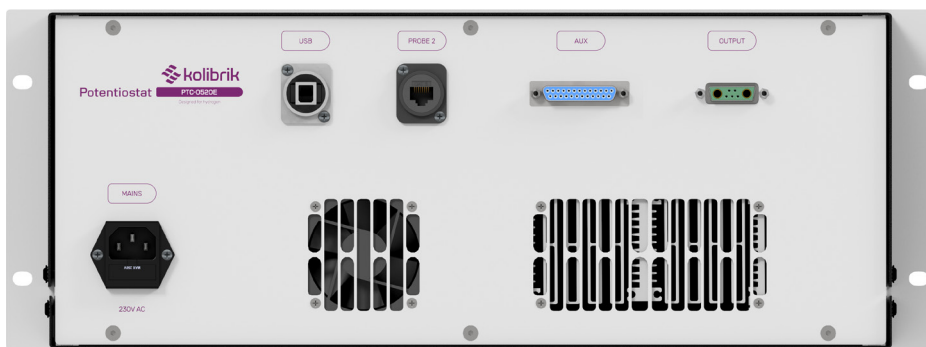
Software PTC Server - Cyclic Voltammetry



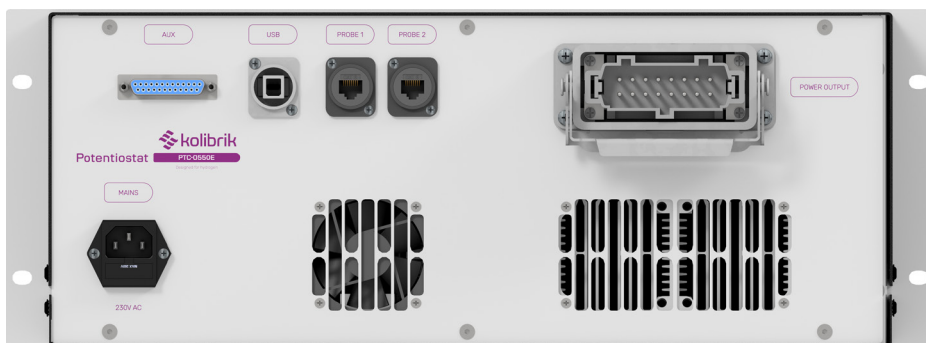
# Technical Parameters

	PTC-0520E	PTC-055E	PTC-1050EW	PTC-05100EW
<b>Power supply</b>	110 ... 240 V AC / 50 ... 60 Hz			
<b>Dimensions</b>	19" rack cabinet, 4U height			
<b>Cooling</b>	Air	Air	Water	Water
<b>Protection rating</b>	IP20			
<b>Electrometer Input voltage range</b>	-10 V ... +10 V			
<b>Compliance / Output voltage</b>	-5 V ... +5 V	-5 V ... +5 V	-10 V ... +10 V	-5 V ... +5 V
<b>Compliance / Output current</b>	-20 A ... +20 A	-50 A ... +50 A	-50 A ... +50 A	-100 A ... +100 A
<b>Max. internal power dissipation</b>	200 W	350 W *)	1000 W	1000 W
<b>Current ranges</b>	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
<b>Sampling</b>	24-bit ADCs, 1 ksp/s internal, 50 sp/s filtered sampling 14-bit ADCs, up to 20 Msps for EIS measurements			
<b>Measurement resolution</b>	0.001% of selected range for $\leq 1$ ksp/s sampling			
<b>Accuracy</b>	Voltage: $\leq 0.1\%$ of range + 0.1% of reading Current: $\leq 0.1\%$ of range + 0.5% of reading			
<b>Acquisition methods</b>	Constant V, I, Open circuit, Manual control Chronoamperometry, Chronopotentiometry Linear Sweeps, I/V Characteristic Cyclic Voltammetry, Cyclic Amperometry Pulse Voltammetry – Differential, Square, Normal Electrochemical Impedance Spectroscopy (EIS) Programmable sequences of all available methods			
<b>EIS frequency</b>	1 mHz ... 100 kHz, limited use up to 1 MHz			
<b>EIS amplitude</b>	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
<b>PC connection</b>	USB 2.0			
<b>Software</b>	Software for MS Windows, TCP Server, NI LabVIEW drivers, Python tools			

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



Rear view of PTC-0520E



Rear view of PTC-0550E



Rear view of PTC-1050EW



Rear view of PTC-05100EW

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