

Potentiostat

High-power Potentiostat / Galvanostat

PTC-05100EW



Features

Potentiostat / Galvanostat	± 5 V, ± 100 A
Max internal power dissipation	1000 W
4 current ranges	500 mA, 5 A, 20 A, 100 A
Impedance spectroscopy	1 mHz ... 100 kHz
Cooling	Water



Applications

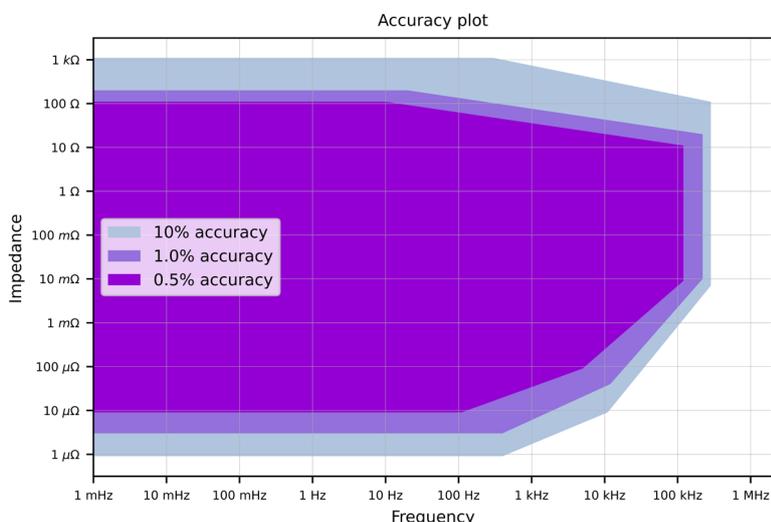
Typical applications include hydrogen fuel cells, water electrolyzers, solid-oxide cells, redox-flow batteries, and lithium batteries with high-current and high-power requirements. Additionally, EIS is utilized in applied research, manufacturing testing, and quality control.

Technical Parameters

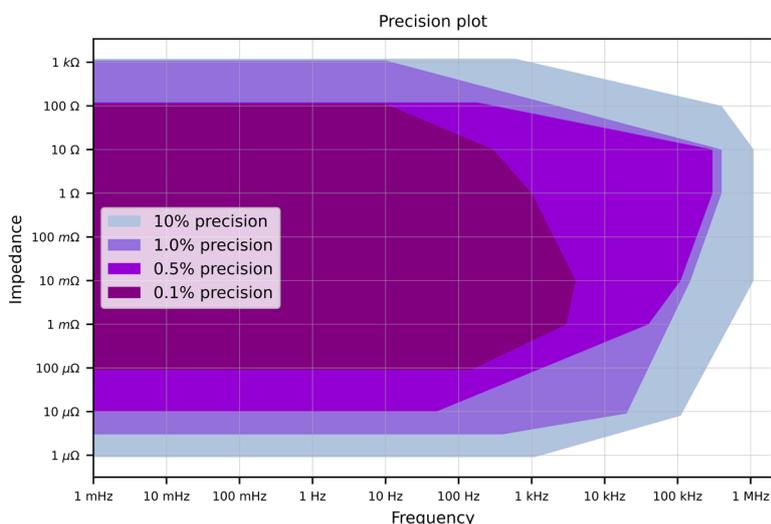
Power supply	110 ... 240 V AC / 50 ... 60 Hz	
Dimensions	19" rack cabinet, 4U height	
Cooling	Water	
Protection rating	IP20	
Electrometer Input voltage range	-10 V ... +10V	
Compliance / Output voltage	-5 V ... +5 V	
Compliance / Output current	-100 A ... +100 A	
Current ranges	4 current ranges (500 mA, 5 A, 20 A, 100 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 chronoamperometry, chronopotentiometr linear sweeps, I/V characteristic cyclic voltammetry, cyclic amperometr pulse voltammetry – differential, square, normal impedance spectroscopy (EIS) programmable sequences of all available methods	
EIS frequency	1 mHz ... 100 kHz	
EIS amplitude	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 tools	



Accuracy and precision



Accuracy contour plot
(Based on absolute measurement accuracy)



Precision contour plot
(Based on RMS noise of measurement)

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