

DS-600 Series

High Power EIS Test System



Product Introduction

DS-600 series high power EIS test system provide accuracy EIS testing environment for fuel cell stacks, it is capable of switching fixed-frequency and sweep-frequency modes. The DS-600 series is based on Kewell's developed high-current AC electronic load, with a disturbance current of up to 900A, meeting the EIS testing requirements under high current conditions of high-power fuel cells. It is equipped with a high sampling rate data acquisition unit, with a maximum sampling rate of 1MSa/s and the ability to resolve voltage signals at the μV level. On the software side, DS-600's software can be coordinated with Kewell's test systems and electronic load to achieve safe and logical interlocking.



Fixed and sweep-frequency testing
for fuel cells and electrolyzer cells.



EIS testing for fuel cell and fuel cell stacks.



Power analysis.

Product Features

- Maximum disturbance current of 900A, maximum withstand voltage of 1200V of the disturbance unit, applicable for EIS testing of high power PEMFC fuel cells and electrolyzer stacks.
- AC disturbance electronic load is designed for modularity, enabling parallel connection for online EIS testing of high power fuel cell stacks.
- Switch between sweep-frequency and fixed-frequency testing modes, with results that avoid interference from loads or power sources.
- High accuracy, high dynamic, and high resolution wideband voltage and current signal acquisition.
- Applicable for stack, fuel cell group, and single fuel cell EIS testing with its flexible configuration of high and low voltage channels.
- Utilizing PXI bus architecture, it can be equipped with optional voltage and current channels to achieve multi-channel power analyzer capabilities.
- Supporting of integration with test systems in both hardware and software, achieving interlock between the device and the test bench in terms of safety logic.



Technical Parameters

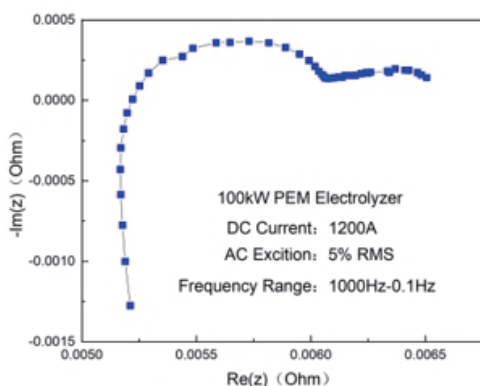
Types			Parameters
Disturbance module		Max. voltage	1200V ^①
		Max. current	900A ^②
		Max. Power	26.4kW ^②
		Frequency range	0.01Hz~20kHz
		Test mode	Sweep-frequency/fixed-frequency
Data acquisition unit	Curent acquisition	Number of current channels	1
		Current range	0-1200A
		Current accuracy	0.3%F.S.
	Stack voltage acquisition	Number of voltage channels	3
		Voltage ragne	0-1000V
		Voltage resolution	1mV
		Voltage accuracy	±0.02%RD±0.02%F.S.@DC ±0.03%RD@0.5Hz to 1kHz ±0.15%RD@1KHz to 5kHz ±0.35%RD@5KHz to 10kHz ±0.6%RD@10KHz to 20kHz
	Fuel cell group voltage acquisition	Number of voltage channels	4(expandable up to maximum of 31 channels)
		Voltage ragne	0-5V
		Voltage resolution	1μV
		Voltage accuracy(5V terminals)	±0.015%RD±200μV@DC. ±0.03%RD@0.5Hz to 10kHz ±(0.006%*f)RD@10KHz to 20kHz ^③
	Synchronization requirement		Synchronous sampling
	Sampling rate		Maximum of 1MHz
	Bandwidth		300kHz
	Resolution		24bit
	Software	Measurement, control, and display functions	
Data storage		CSV format	
General specifications	Frequency of power supply		50Hz
	Rated voltage		AC 220V
	Operating temperature		5-45℃

Note ①: The voltage and current range are subject to the disturbance electronic load power limitations.

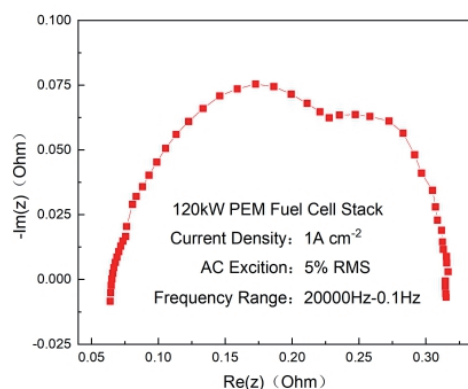
②: It supports the power extension capability of the disturbance electronic load.

③: f : frequency in kHz.

Testing Data



Electrolyzer load current: 1200A, disturbance ratio: 5%.



Fuel cell stack load current: 300A, disturbance ratio: 5%.