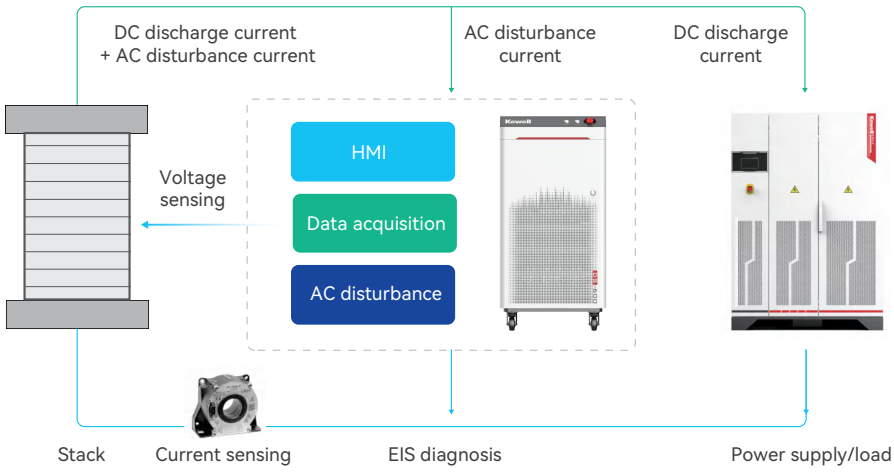
DS-600 Series EIS Test System

The DS-600 Series high-power impedance test system aims to provide precise impedance testing (fixed frequency and sweep frequency modes) for stack or electrolyzer. Combined with Kewell E5000 series electronic load, this series achieves high dynamic, high precision, and flexible performance, and it applies to stack impedance testing for fuel cells and electrolyzers with power ranging from kW to MW levels.

- Support impedance test for stacks ranging from kW to MW levels
- Synchronized measurement of cell, group and stack-wide impedance
- Fixed and sweep frequency, 0.01Hz~20kHz
- DRT fitting function



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Test Items

- Stack-wide and single cell impedance test
- Fixed frequency and sweep frequency test
- DRT analysis
- Power analysis

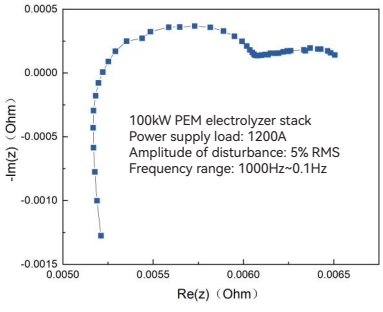
AC Disturbance Unit

Item	Voltage/V	Current /A	Power/kW	Function
Config. 1	1200	80①	2.2	Sine (SWD) CC CV CR CP Dynamic current load (CCD)
Config. 2		160	4.4	
Config. 3		240	6.6	
Config. 4		480	13.2	
Config. 5		720	19.8	
Config. 6		960	26.4	
Config. 7		1200	33	
Config. 8		1440	39.6	
Config. 9		1680	46.2	
Config. 10		1920	52.8	
Voltage accuracy	0.05%R.D.+0.025%F.S.			
Current accuracy	≤0.2%R.D.+0.3%F.S.			
Sweep frequency range	20kHz-0.01Hz			
Notes	① The current is max. output current. When running SWD mode, to avoid significant waveform distortion, it should be ensured that current is not less than 3.5A at trough of every 2.2kW module. Meanwhile, for impedance testing, the current here is the peak-to-peak current of loading, not current RMS.			

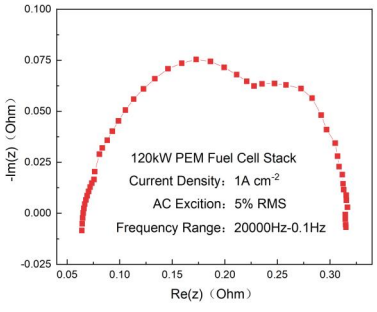
Data Acquisition Unit

Parameter name	Specification
Sampling rate	400kS/s/ch
Voltage range	±600V or ±10V, ±5V, ±2V, ±1V ①
Current range	Optional ②
Bits	No lower than 16bit
Bandwidth	No lower than 250kHz
Number of channels	Integral multiples of 8 ③
Notes	① The ±600V channel acquisition has a buck terminal at the front end, which will affect the overall accuracy to some extent; ±10V can switch to smaller ranges; ② Current range can be selected based on customer needs, and the transformer selected accordingly; but the range will affect accuracy; ③ The number of data acquisition channels is an integral multiple of 8, but one channel is fixed for current sensing; users may configure different voltage sensing ranges for the remaining channels.

Measured Data



Electrolyzer loading current: 1200A, disturbance: 5%



Stack loading current: 300A, disturbance: 5%