

CTS100 Cell Test Equipment



About us

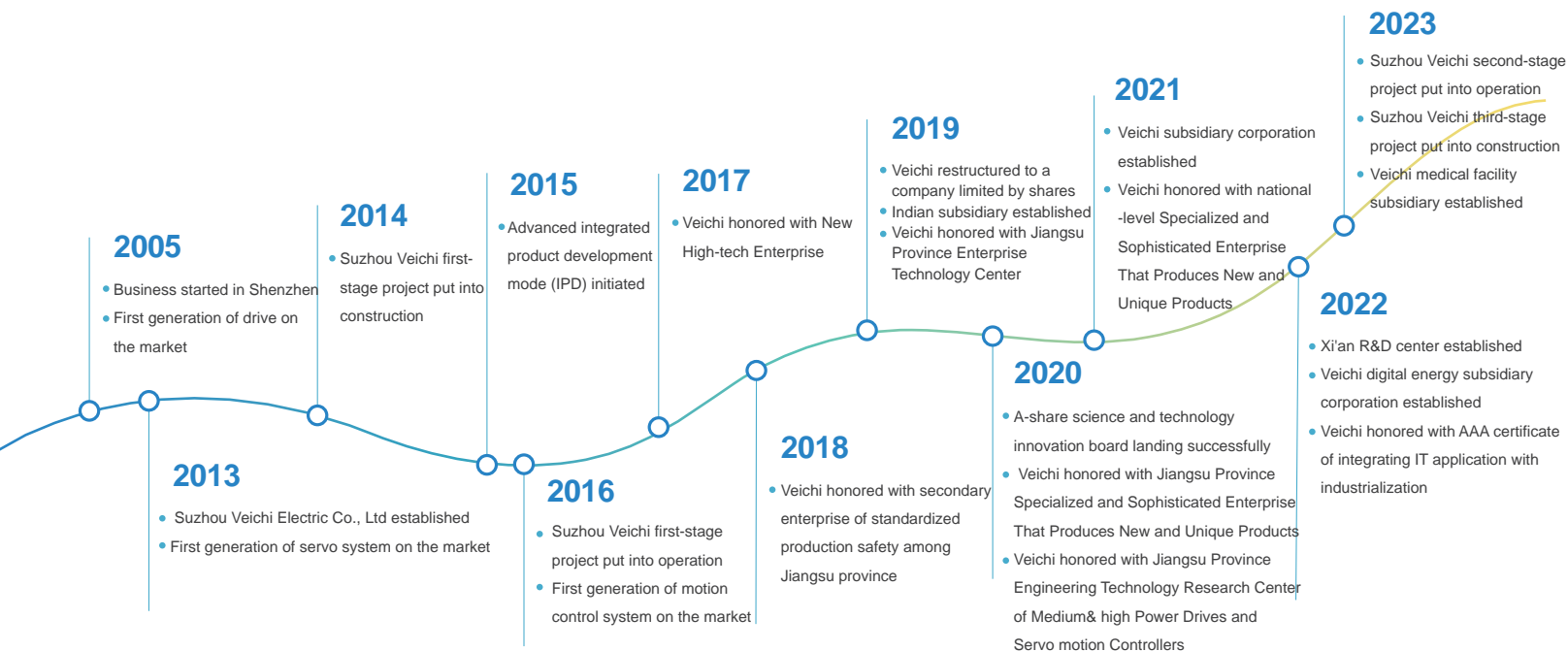


Veichi (stock code: 688698) has always committed to electric drive and industrial control since its foundation. As an all-round company engaged in R & D, manufacturing and sales on high-tech industrial automation products, Veichi has been identified with several honorary titles such as Jiangsu provincial-level Enterprise Technology Center, Jiangsu Private-own Technical Enterprise, Specialized and sophisticated enterprises that produce new and unique products, Jiangsu Engineering Research Center, Jiangsu New and High-tech Enterprise and Suzhou city-level Gazelle Company (High Growth Enterprise) and has obtained the highest level of enterprise credit. Through years of independent research and development, Veichi now has authorized patents totaling 148 by the end of 12, 2022, and among them 36 are for invention. Having established R & D center and manufacturing bases in Suzhou, Shenzhen and Xi'an, added with the wholly-owned subsidiary in India, Veichi now are dealing with customers from several nations and regions and has the full capability to provide safe, competitive and trustworthy products and services to customers from the larger world.

Veichi provides various products including drives from 0.4kW to 5,600kW, servo systems from 50W to 200kW, motion controllers, PLC and HMI, which are applied in all sorts of fields occasions like lifting, mining, rail traffic, machine tools, compressors, plastic equipment, photo-voltaic pumping, construction, robots/mechanical arms, printing and packaging, chemical fibers for textile use, metallurgy, municipal works, petrol work and chemical engineering.

18 service stations and 182 contracted distributors cover 31 provinces on China mainland and Hong Kong, Macao and Taiwan regions, which guarantees a massive and efficient network for sales and services for our customers.

Veichi will continue to abide by the operation philosophy, that is, guided by market demand and driven by technical innovation, enlarge and enhance its core business like drives, servo systems, control systems and SlotTs. And Veichi will always be hard at providing quality products and services for customers and further make contributions to the development of electric drives and industrial controls.

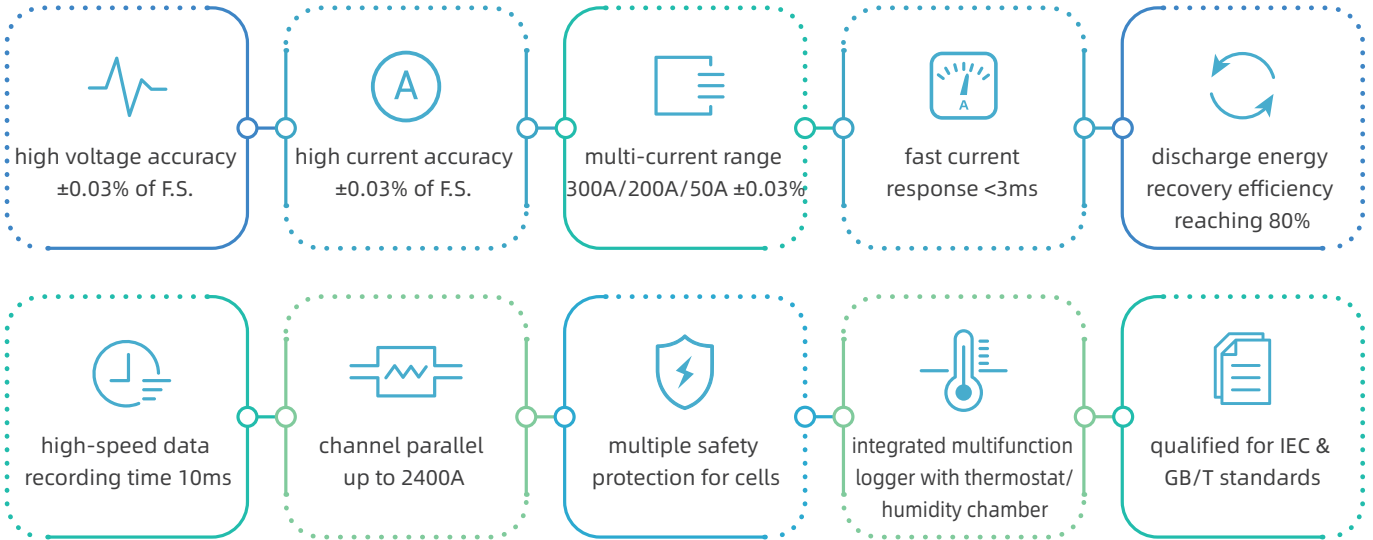


Product Introduction

CTS100 is a professional charge/discharge test equipment developed for high current/high power performance testing. It is suitable for performance testing and evaluation of high-capacity Li-ion cells and Li-ion capacitors, cycle life verification, and product model selection.

Adopted with the latest technique, CTS 100 features high energy conversion efficiency, high voltage and current accuracy, fast current dynamic response, multi-current range automatic staging, high power density, and high safety factor in actual use. The CTS100 is characterized by high energy conversion efficiency, high voltage and current accuracy, fast current dynamic response, automatic multi-current range current staging, high power density, and high safety factor.

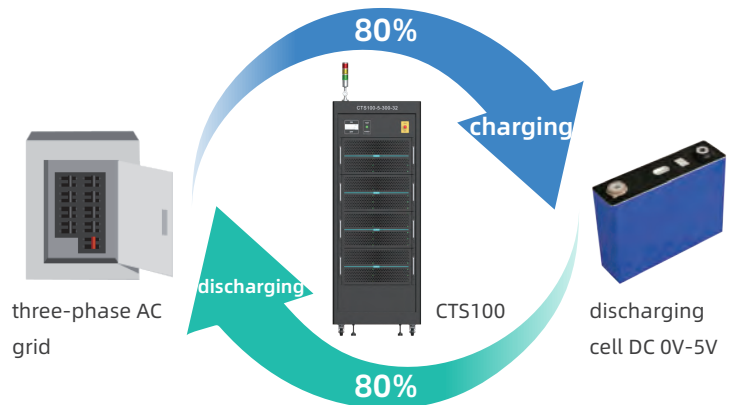
High current cycle life test requires high energy conversion efficiency of the test equipment, thus CTS100 series products are designed with lower energy cost and at the same time less heat generation so that the internal system including the elements for accuracy control can work under a relatively low temperature to effectively avoid temperature excursion of key elements' parameters and shortened service life caused by temperature variation.



Product Features

High Efficiency of Energy Recovery

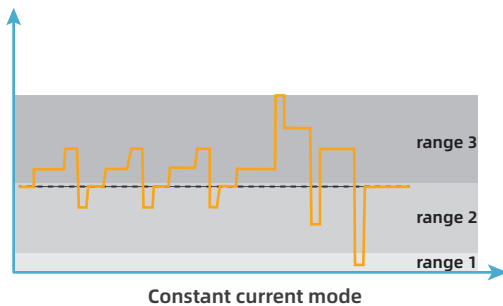
CTS100 feeds battery discharge power back to the AC grid instead of high energy consumption to reduce a large amount of waste heat generation and realize green energy manufacturing with low carbon emission. Reduced demand for power distribution leads to reduced operating electricity and air conditioning cost. Battery cell discharge is recycled to the regional grid, and the recycling efficiency can reach up to 80%. High efficiency brings higher power density, and thus the same laboratory configuration occupies less space and lower operating costs.



Multi-current gear 300A/200A/50A

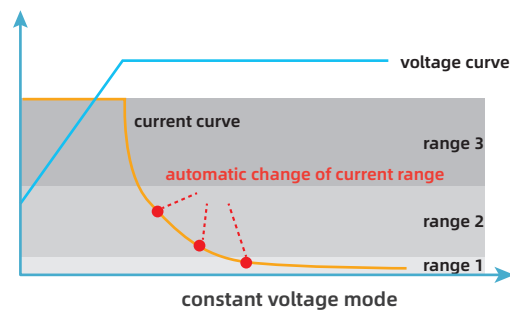
Automatically select appropriate current level in constant current mode

Multiple current output and measurement levels are available to cover high and low current test processes.



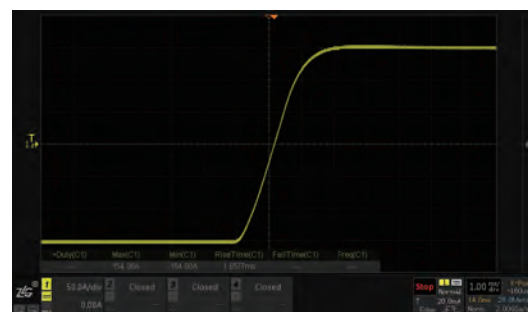
Automatically select the appropriate current level in constant voltage mode

Automatically switch current level in constant voltage mode without interrupting output to improve the current resolution and increase consistency of the cut-off judgment condition.



Quick dynamic response time

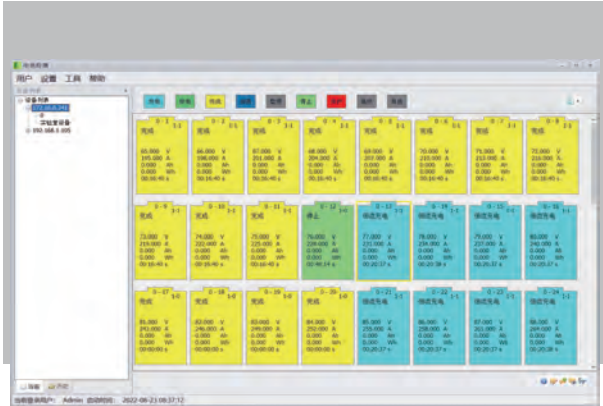
High-speed current response time <3ms
Fast current response to provide more ideal experimental conditions, reducing cumulative capacitance error and obtaining lower distorted data in rapidly changing dynamic tests.



Software Functions

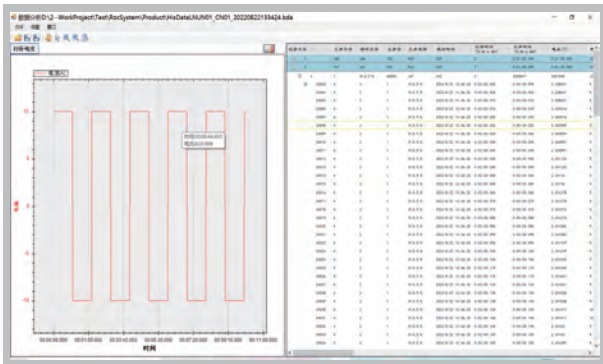
Convenient human-machine interface

Centralized management of testing equipment and battery test data with real-time display of battery status (voltage, current, power, capacity, energy, etc.).



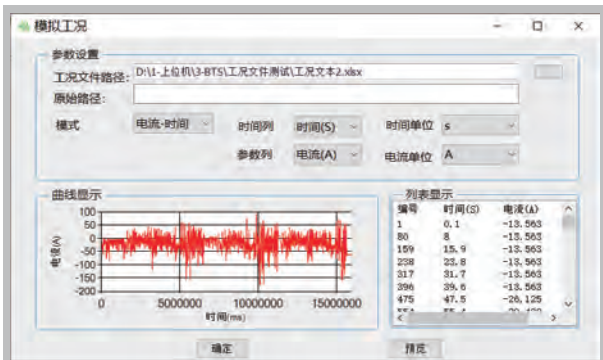
Data analysis

Various customized curves and curve comparison for users to analyze battery test data professionally.



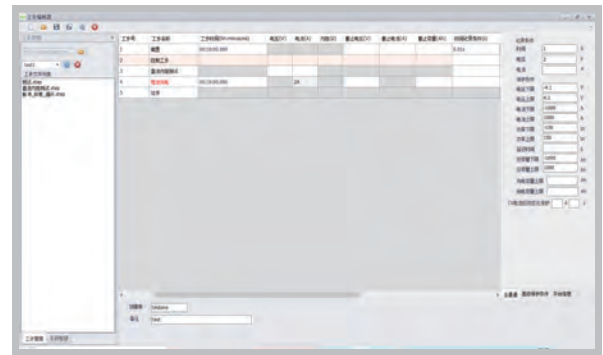
Simulation of working conditions

Able to convert the actual electric vehicle operating conditions data into battery testing process to simulate operating conditions on the battery.



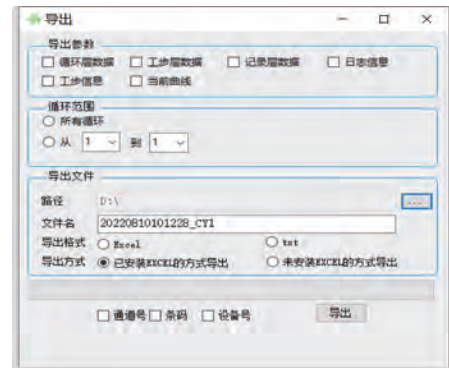
Phase-editing

Various phases combined (constant current charge/discharge, constant voltage charge/discharge, constant power charge/discharge, pulse, work condition simulation, DCIR, etc.) to set overall/single phase recording conditions and protection conditions for battery charge/discharge tests.



Report export

Battery test data exported in various forms of reports.



Coordination with surrounding devices

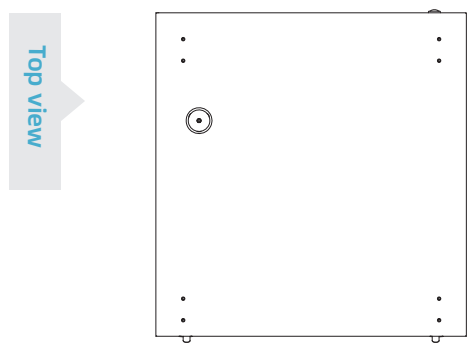
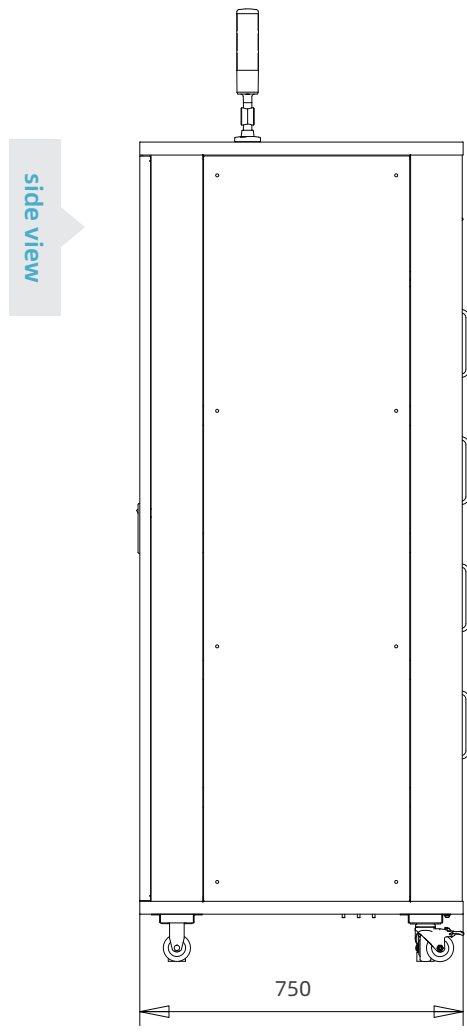
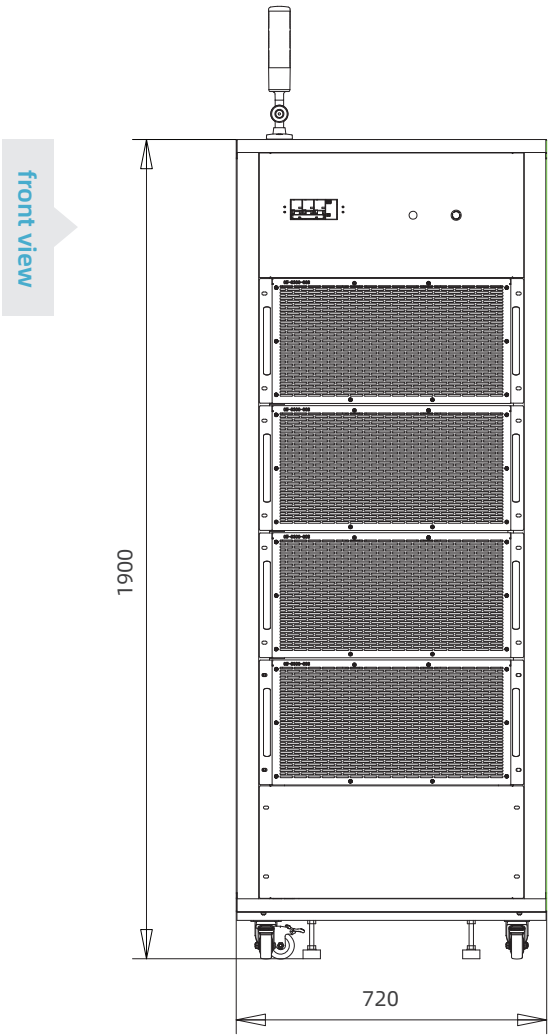
Peripheral devices (thermostat, water chiller, etc.) controlled in many forms through a gigabit switch based on TCP/IP network communication.



Parameter Specification

Specifications				
Cabinet model	CTS100-5-200-32	CTS100-5-300-32	CTS100-5-600-16	CTS100-5-1200-8
Voltage range	Charge 0V ~ 5V, discharge 1V ~ 5V			
Voltage resolution	0.1mV			
Voltage accuracy	±0.03%F.S. @25°C±10°C			
Current range	Charge15mA ~ 200A Discharge15mA ~ 200A	Charge15mA ~ 300A Discharge15mA ~ 300A	Charge15mA ~ 600A Discharge15mA ~ 600A	Charge15mA ~ 1200A Discharge15mA ~ 1200A
Current resolution	0.1mA			
Current gear	50A/100A/200A	50A/200A/300A	50A/200A/300A/600A	50A/200A/300A/1200A
Current accuracy	±0.03%F.S. @25°C±10°C			
Power gear	250W/500W/1000W	250W/1000W/1500W	250W/1000W/ 1500W/3000W	250W/1000W/ 1500W/6000W
Power accuracy	±0.05%F.S. @25°C±10°C			
Power resolution	1mW			
Fastest sampling time of main channel	10ms			
Current rise time (0A ~ ±100%)	< 3ms			
Charge efficiency	81% (highest efficiency for 2V-4.2V battery voltage), 85% (highest efficiency for 5V battery voltage)			
Discharge efficiency	79% (highest efficiency for 2V-4.2V battery voltage), 82% (highest efficiency for 5V battery voltage)			
Auxiliary voltage protection channel	Accuracy ±1mV (25°C±10°C) , sampling rate 10ms, -8V ~ 8V, leakage current < 0.1uA, input impedance > 200MΩ, one for each main channel			
Auxiliary pressure protection channel	Accuracy < 0.2%FS (25°C±10°C) ,0 ~ 10T/0 ~ 3mV/V, one for each main channel at most			
Auxiliary temperature protection channel (NTC or thermocouple two options)	Accuracy ±0.5 (25°C±20°C) , -40°C ~ 125°C, sampling rate 500ms, 4NTC temperature detection at most for each main channel			
	Accuracy ±1 (25°C±20°C), -70°C ~ 250°C, sampling rate 500ms,3K-type or T-type thermocouples for each main channel at most			
Number of main channels of single cabinet	Standard 32CH, optional 8CH or 16CH or 24CH	Standard 32CH, optional 8CH or 16CH or 24CH	Standard 16CH, optional 4CH or 8CH or 12CH	Standard 8CH, optional 2CH or 4CH or 6CH
Mechanical dimensions (W*H*D)	720mm*1900mm*750mm			
Mechanical weight	< 600Kg(standard cabinet)			

Mechanical Dimensions of the Cabinet



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