FT8350 series

Bidirectional battery cell simulating power supply

Features

- Voltage range: 6V/15V/20V;
- Current range: ±1A/±2A/±3A/±5A;
- Voltage accuracy up to 0.01% F.S;
- Dual current range, automatic switching;
- μA level measurement, capable of conducting static power consumption testing;
- Small size, high integration, 3U/24CH;
- The voltage temperature drift coefficient is less than 25ppm/℃;
- Unique fault simulation function, simulating battery disconnection, short circuit, reverse connection etc.(only for A series);
- Equipped with various functions such as charge and discharge testing, battery simulation, SOC simulation, pulse function etc;
- Isolation between channels, which can be used in series with multiple channels;
- Professional testing software that supports data reporting and analysis;
- Equipped with LAN, RS485,and CAN control interfaces;
- Support SCPI and Modbus protocol;
- The USB interface supports file import, export, and screenshot functions;
- 4.3 inch high-definition LCD screen, supporting local/remote control.

Support active and passive equalization

FT8350 series adopts current bidirectional design, each channel supports current output and suction, and the balanced current is up to 5A. The user can customize the battery charging and discharging model and conduct real-time control through a dedicated upper computer, which fully meets the requirements of BMS active/passive equalization test.

Summary

FT8350 series is a high-precision, multi-channel, dual quadrant programmable battery simulator. Voltage precision up to 0.01% F.S., support μA level current measurement: there are up to 24 channels in a device, and the channels are isolated from each other, which is convenient for serial use of multiple channels. The simulator supports power supply mode,static power consumption test function, charging mode, discharge mode, battery simulation, sequence test, pulse function and multiple fault simulation (only A series), which can not only meet the requirements of BMS test, but also meet the ATE test of consumer electronic products. The built-in upper computer software is easy to operate, flexible and easy to use. Support single channel programming operation, multi-channel editing operation and multi process programming operation.

The FT8350 series adopts a standard 19 inch chassis with a height of 3U, and provides LAN, RS485 and CAN communication interfaces, which is convenient for integrating into R&D and automated test platform, or can be used alone.

Application field

- BMS (Battery Management System) testing;
- CMS (Ultra Capacity Management System) testing;
- Consumer electronics testing such as headphones, mobile phones, tablets, e-cigarettes, etc;
- Production testing of electric tool products;
- Power supply testing for other types of electronic products.

Ultra high accuracy

FT8350 series has high precision and voltage precision is 0.01% F.S. Voltage resolution is as low as 0.1mV, current resolution is as low as 0.1 μ A. For the test of device power consumption in standby mode, the FT8350 has 0.1 μA current resolution measurement, can easily measure the standby current of uA level.

Static power consumption test

The FT8350 offers high precision voltage and current measurement. Two current ranges, current accuracy up to 1μA. By supplying power to the product under test through FT8350, the static power consumption of the product under test in standby state can be visually tested and unqualified products can be screened out.

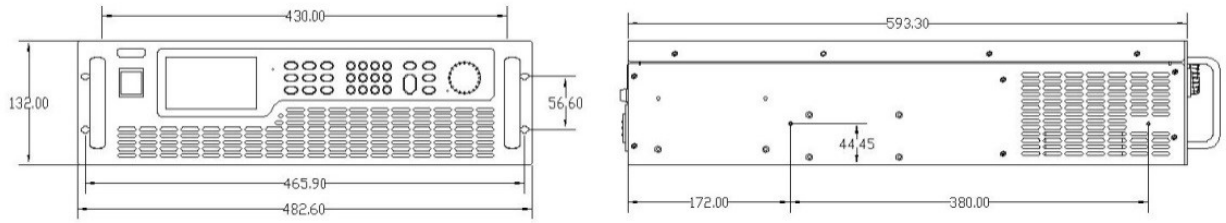
Various battery test functions

FT8350 series products have various battery simulation functions such as power mode, battery simulation, battery charging test, discharge test, fault simulation etc. Realize one device for multiple purposes, simplify test equipment and optimize test process. The user can also set the curve of cell parameters (SOC, voltage, capacity, internal resistance and other parameters fitting) to simulate the battery output for testing the products to be inspected.

Fault simulation function (A series)

FT8350 comes standard with fault simulation function per channel. A device has up to 24 independent output simulator channels, each of which can simulate fault functions such as positive/negative short circuit, positive/negative broken circuit, polarity reversal etc. By directly controlling through the upper computer software, the external matrix switch components that simulate battery failures are eliminated, saving space and valuable investment for users.

Dimension drawing



Order information

Channels	A series models	E series models	Spec.	Height	Remark
16CH	FT835016A-6-1	FT835016E-6-1	6V/±1A/6W, 16CHS	3U	Only Series A has fault simulation function
	FT835016A-6-2	FT835016E-6-2	6V/±2A/12W, 16 CHS	3U	
	FT835016A-6-3	FT835016E-6-3	6V/±3A/18W, 16 CHS	3U	
	FT835016A-6-5	FT835016E-6-5	6V/±5A/30W, 16 CHS	3U	
	FT835016A-15-1	FT835016E-15-1	15V/±1A/15W, 16 CHS	3U	
	FT835016A-15-2	FT835016E-15-2	15V/±2A/30W, 16 CHS	3U	
	FT835016A-20-1	FT835016E-20-1	20V/±1A/20W, 16 CHS	3U	
18CH	FT835018A-6-1	FT835018E-6-1	6V/±1A/6W, 18 CHS	3U	
	FT835018A-6-2	FT835018E-6-2	6V/±2A/12W, 18 CHS	3U	
	FT835018A-6-3	FT835018E-6-3	6V/±3A/18W, 18 CHS	3U	
	FT835018A-6-5	FT835018E-6-5	6V/±5A/30W, 18 CHS	3U	
	FT835018A-15-1	FT835018E-15-1	15V/±1A/15W, 18 CHS	3U	
	FT835018A-15-2	FT835018E-15-2	15V/±2A/30W, 18 CHS	3U	
	FT835018A-20-1	FT835018E-20-1	20V/±1A/20W, 18 CHS	3U	
24CH	FT835024A-6-1	FT835024E-6-1	6V/±1A/6W, 24 CHS	3U	
	FT835024A-6-2	FT835024E-6-2	6V/±2A/12W, 24 CHS	3U	
	FT835024A-6-3	FT835024E-6-3	6V/±3A/18W, 24 CHS	3U	
	FT835024A-6-5	FT835024E-6-5	6V/±5A/30W, 24 CHS	3U	
	FT835024A-15-1	FT835024E-15-1	15V/±1A/15W, 24 CHS	3U	
	FT835024A-15-2	FT835024E-15-2	15V/±2A/30W, 24 CHS	3U	
	FT835024A-20-1	FT835024E-20-1	20V/±1A/20W, 24 CHS	3U	

Optional information

Name	Model or specification	Description
Test wire	FT8350-TL05A	5A test wire/1.5m length

Specification table-1

model		FT835024A-6-1	FT835024A-6-2	FT835024A-6-3	FT835024A-6-5	FT835024A-15-1	FT835024A-15-2	FT835024A-20-1
voltage		±6V	±6V	±6V	±6V	±15V	±15V	±20V
current		±1A	±2A	±3A	±5A	±1A	±2A	±1A
power		6W	12W	18W	30W	15W	30W	20W
Input impedance		≥3GΩ	≥3GΩ	≥3GΩ	≥3GΩ	≥3GΩ	≥3GΩ	≥3GΩ
Number of channels		24CH	24CH	24CH	24CH	24CH	24CH	24CH
Maximum series connection		The maximum series output voltage does not exceed 1000V, and the hosts can be connected in series						
Voltage parameter	Output range	0~6.12V				0~15.3V		0~20.4V
	Output accuracy	0.5mV				1.5mV		2mV
	Resolution	0.1mV				0.1mV		0.1mV
	Measurement accuracy	0.5mV				1.5mV		2mV
	Resolution	0.1mV				0.1mV		0.1mV
	Rise time	≤1ms						
	Temperature coefficient	25ppm/℃						
Current parameters (double range)								
Range 1	Output range	-1~1A	-2~2A	-3~3A	-5~5A	-1~1A	-2~2A	-1~1A
	Measurement accuracy	0.05%+0.5mA	0.05%+1mA	0.05%+1.5mA	0.05%+2.5mA	0.05%+0.5mA	0.05%+1mA	0.05%+0.5mA
	Resolution	0.1mA						
Range 2	Output range	-1~1mA	-2~2mA	-3~3mA	-5~5mA	-1~1mA	-2~2mA	-1~1mA
	Measurement accuracy	0.05%+0.5uA	0.05%+1uA	0.05%+1.5uA	0.05%+2.5uA	0.05%+0.5uA	0.05%+1uA	0.05%+0.5uA
	Resolution	0.1uA						
Temperature coefficient		50ppm/℃						
Other characteristics								
Connection mode		PCB soldering terminal/four wire system wiring						
Dimension		3U/19"						
Sampling frequency		20Hz						
Communication interface		LAN、RS485、CAN						
Communication protocol		SCPI、Modbus						
Transport protocol		TCP/IP						
Fault simulation		Positive broken circuit, negative broken circuit, output short circuit, polarity reverse connection						
Input voltage		Single phase, 100～240Vac, 50/60Hz						
Environmental characteristics	Working temperature	0～40℃						
	Storage temperature	-25℃～60℃						
	Working humidity	20%rh～85%rh (No condensation)						
	Storage humidity	＜90%rh (No condensation)						
	Use environment	Altitude < 2000m, indoor use						
	Dimension	430 (W) * 594(D) * 132(H)mm						
	Weight	20kg						

Specification table-2

Model		FT835024E-6-1	FT835024E-6-2	FT835024E-6-3	FT835024E-6-5	FT835024E-15-1	FT835024E-15-2	FT835024E-20-1
Voltage		6V	6V	6V	6V	15V	15V	20V
Current		±1A	±2A	±3A	±5A	±1A	±2A	±1A
Power		6W	12W	18W	30W	15W	30W	20W
Input impedance		≥3GΩ	≥3GΩ	≥3GΩ	≥3GΩ	≥3GΩ	≥3GΩ	≥3GΩ
Number of channels		24CH	24CH	24CH	24CH	24CH	24CH	24CH
Maximum series connection		The maximum series output voltage does not exceed 1000V, and the hosts can be connected in series						
Voltage parameter	Output range	0~6.12V				0~15.3V		0~20.4V
	Output accuracy	0.5mV				1.5mV		2mV
	Resolution	0.1mV				0.1mV		0.1mV
	Measurement accuracy	0.5mV				1.5mV		2mV
	Resolution	0.1mV				0.1mV		0.1mV
	Rise time	≤1ms						
	Temperature coefficient	25ppm/℃						
Current parameters (double range)								
Rang 1	Output range	-1~1A	-2~2A	-3~3A	-5~5A	-1~1A	-2~2A	-1~1A
	Measurement accuracy	0.05%+0.5mA	0.05%+1mA	0.05%+1.5mA	0.05%+2.5mA	0.05%+0.5mA	0.05%+1mA	0.05%+0.5mA
	Resolution	0.1mA						
Rang 2	Output range	-1~1mA	-2~2mA	-3~3mA	-5~5mA	-1~1mA	-2~2mA	-1~1mA
	Measurement accuracy	0.05%+0.5uA	0.05%+1uA	0.05%+1.5uA	0.05%+2.5uA	0.05%+0.5uA	0.05%+1uA	0.05%+0.5uA
	Resolution	0.1uA						
Temperature coefficient		50ppm/℃						
Other characteristics								
Connection mode		PCB soldering terminal/four wire wiring						
Dimension		3U/19"						
Sampling frequency		20Hz						
Communication interface		LAN、RS485、CAN						
Communication protocol		SCPI、Modbus						
Transport protocol		TCP/IP						
Input voltage		Single phase, 100~240Vac, 50/60Hz						
Environmental characteristics	Working temperature	0～40°C						
	Storage temperature	-25°C～60°C						
	Working humidity	20%rh～85%rh (No condensation)						
	Storage humidity	＜90%rh (No condensation)						
	Use environment	Altitude < 2000m, indoor use						
	Dimension	430 (W) * 594(D) * 132 (H) mm						
	Weight	20kg						