

FT66100A series

Multi-channel DC electronic load



Characteristic

- 8-inch color display, can display 6 channels data and set parameters at the same time, self-adaptive screen display;
- Support Chinese/English/Chinese language display; 5-bit data, 0.05% accuracy, 20kHz dynamic frequency can be set up and down slope;
- Constant current, constant voltage, constant resistance, constant power and LED five test functions;
- Multiple modules can be set synchronization mode, calmly cope with high current or multi-output channel device test;
- Over voltage/over current/over power/over temperature/polarity reverse and other all-round intelligent protection;
- With adjustable hardware current and power limit value, can effectively provide reliable protection for the tested equipment;
- Support quick call, numeric keys can arbitrarily call the saved settings, easy to test;
- Support automatic test, load automatically complete the test process, and give the test result;
- Support OCP test, automatically find the overcurrent protection point, record the maximum current and maximum power value and produce the result judgment;
- Two short-circuit states, switching and delay, to ensure the safety of the power supply under test;
- Perfect hardware and software protection, comprehensive internal and external protection;
- Simulate capacitive inductive load, control battery charging and discharging state;
- RS232, GPIB (optional), LAN (optional) communication port, standard
- SCPI instruction set, easy to build the test system;
- Intelligent fan control saves energy and reduces noise.

Application field

- Production, aging and quality inspection of low-power power supply products such as low-power power supply, DC converter, mobile phone charger, 3C battery, BMS, etc.
- Automotive wiring harness, connectors, fuses, relays, central electrical box and other product testing;
- Battery pack, BMS protection board balanced discharge, power tool production testing, LED power board production testing and other related fields.

Summary

FT66100 multi-channel programmable DC electronic load, modular design, a single frame can install up to 6 electronic load modules. Its 8-inch color screen can display the work content of 6 channels at the same time, and adaptively adjust the optimal display interface according to the number of channels. This load provides a wide range of test functions, suitable for a variety of single or multi-output DC power supplies, chargers, LED drivers or related equipment testing, including both CC, CV, CR and CP basic test mode, but also provides LED test mode and dynamic test function, dynamic frequency up to 20kHz.

The FT66100 series adopts the structure of one host and one module. Users can freely choose modules according to the number of test channels and power requirements, which is very suitable for building a power test platform. It is equipped with RS232, GPIB (optional), LAN (optional) and other communication control interfaces, which is convenient for users to implement remote intelligent control, greatly improve work efficiency, and provide a variety of solutions for your design and testing.

Program function

The FT66100 series provides program testing capabilities to simulate complex changes in actual loads. In program mode, the load performs multiple tests on the device based on the file and prompts the test results in the form of Pass or Fail after the test is completed. The advantages of the program mode are especially obvious in the product inspection, which can significantly improve the efficiency of product inspection. The load can store up to 10 programs, each containing 10 sequences, for a total of 100 files. If a single program sequence is not sufficient to test the object under test, you can use the program chain feature to obtain more sequences for testing.

Constant state function

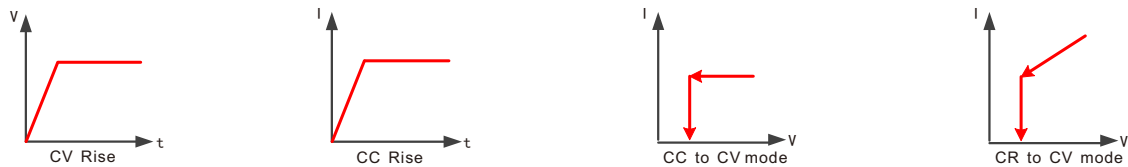
FT66100 series electronic load with constant current, constant voltage, constant resistance and constant power, LED five test modes, can meet a wide range of test requirements. Constant current and constant resistance modes can be used to test whether the output voltage of the voltage source maintains a stable output under different load conditions. For battery chargers and adapters, constant voltage mode can change the output voltage of the charger and adapter to verify that the output current is correct.



APPLY mode

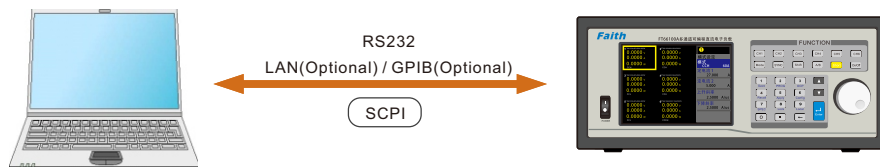
The FT66100A series offers a wide range of application modes to suit testing in special situations, including four modes: Inductive load simulation (CC Rise), capacitive load simulation (CV Rise), constant current constant voltage (CC To CV) and constant resistance To constant voltage mode (CR To CV).

The constant voltage soft start mode is equivalent to a capacitive load, and the size of its analog capacitance is proportional to the rise time of the soft start. The constant current soft start mode is equivalent to an inductive load, and its analog inductance is proportional to the rise time of the soft start. CC TO CV mode and CR TO CV mode are mainly used for battery or capacitor product testing, which can make the discharge more thorough.



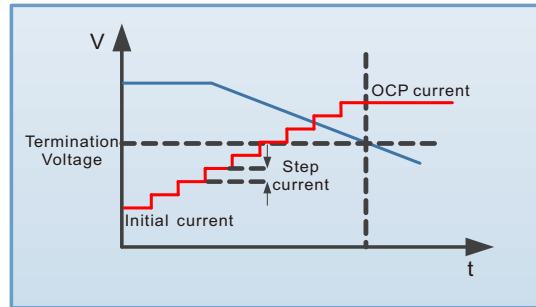
SCPI with remote control

The FT66100 series supports standard SCPI commands, through which all functions of panel operations can be implemented. This provides convenience for the establishment of intelligent test platform and the secondary development of users. The FT66100A series can easily achieve remote control of electronic loads through RS232, GPIB (optional), LAN (optional) interfaces.



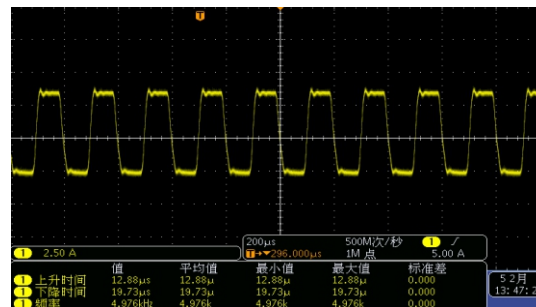
OCP test

FT66100 series load itself provides OCP test, mainly used in BMS, power module overcurrent and overpower point test. During OCP testing, the overcurrent protection point of the tested object will be automatically found and recorded in IMAX, PMAX. Combined with the high and low limit values of the test parameters, it can automatically determine whether the test results exceed the set specifications, saving time for product design verification and production line system testing.



Dynamic function

The FT66100 series provides programmable dynamic testing capabilities. The dynamic mode is used to simulate all kinds of on-load sudden changes and anomalies, and is suitable for testing the dynamic characteristics of power supplies. Maximum frequency up to 20kHz, support up slope, down slope, range switching parameter Settings.



Ordering information

Model	Specification	Note
FT66100A	FT66100 series electronic load mainframe	1,800W max. power per unit, 6 mounting positions
FT66103A	Electronic load module 80V/60A/300W	Occupy a mounting position
FT66105A	Electronic load module 500V/10A/300W	Occupy a mounting position
FT66106A	Electronic load module 80V/120A/600W	Occupy two mounting position
FT66108A	Electronic load module 500V/20A/600W	Occupy two mounting position

Optional information

Name	Model	Instruction
GPIB interface	FT661000A	
LAN interface	FT661001A	

Specification parameters

Model	FT66103A		FT66105A		FT66106A		FT66108A	
Power	300W		300W		600W		600W	
Current	60A		10A		120A		20A	
Voltage*1	80V		500V		80V		500V	
Full current minimum operating voltage	1. 5V@60A		4. 5V@10A		2V@120A		5V@20A	
Constant current								
Range	0~6A	0~60A	0~1A	0~10A	0~12A	0~120A	0~2A	0~20A
Resolution	0. 1mA	1mA	0. 02mA	0. 2mA	0. 2mA	2mA	0. 04mA	0. 4mA
Precision	0. 1%+0. 1%F. S.		0. 1%+0. 1%F. S.		0. 1%+0. 1%F. S.		0. 1%+0. 1%F. S.	
Constant voltage								
Range	0~16V	0~80V	0~50V	0~500V	0~16V	0~80V	0~50V	0~500V
Resolution	0. 3mV	2mV	1mV	10mV	0. 3mV	2mV	1mV	10mV
Precision	0. 05%+0. 1%F. S.		0. 05%+0. 1%F. S.		0. 05%+0. 1%F. S.		0. 05%+0. 1%F. S.	
Constant power*2								
Range	0~300W		0~300W		0~600W		0~600W	
Resolution	5mW		5mW		10mW		10mW	
Precision	0. 5%+1%F. S.		0. 5%+1%F. S.		0. 5%+1%F. S.		0. 5%+1%F. S.	
Constant resistance *2*3*4								
Range	0. 025Ω~100Ω (16V)		0. 5Ω~1875Ω (50V)		12. 5mΩ~50Ω (16V)		0. 25~937. 5Ω (50V)	
	0. 625Ω~2500Ω (80V)		25Ω~93600Ω (500V)		0. 3125~1250Ω (80V)		12. 5~46. 8KΩ (500V)	
Resolution	16bit		16bit		16bit		16bit	
Precision	0. 35%+0. 05S (100Ω)		0. 35%+0. 0025S (1875Ω)		0. 35%+0. 104S (50Ω)		0. 35%+0. 0052S (937. 5Ω)	
	0. 35%+0. 002S (2500Ω)		0. 35%+53uS (93600Ω)		0. 35%+0. 004S (1250Ω)		0. 35%+110uS (46800Ω)	
Transient state								
T1 & T2	0. 025~50ms/Res: 5us		0. 025~50ms/Res: 5us		0. 025~50ms/Res: 5us		0. 025~50ms/Res: 5us	
	0. 1~500ms/Res: 25us		0. 1~500ms/Res: 25us		0. 1~500ms/Res: 25us		0. 1~500ms/Res: 25us	
	10~50s/Res: 2. 5ms		10~50s/Res: 2. 5ms		10~50s/Res: 2. 5ms		10~50s/Res: 2. 5ms	
Precision	1us/1ms+100ppm		1us/1ms+100ppm		1us/1ms+100ppm		1us/1ms+100ppm	
Slope								
Current Range	0~6A	0~60A	0~1A	0~10A	0~12A	0~120A	0~2A	0~20A
Slope *5	1~25mA/us	0.01~2. 5A/us	0.16~40mA/us	1.6~400mA/us	2~50mA/us	0.02~5A/us	0.32~80mA/us	3.2~800mA/us
	0.001A/us	0.01A/us	0.16mA/us	1. 6mA/us	0. 002A/us	0. 02A/us	0. 32mA/us	3. 2mA/us
Precision	(1±35%)× Setting value							
Measurement								
Voltage measurement								
Range	0~16V	0~80V	0~50V	0~500V	0~16V	0~80V	0~50V	0~500V
Resolution	0. 3mV	2mV	1mV	10mV	0. 3mV	2mV	1mV	10mV
Precision	0. 05%+0. 1%F. S.		0. 05%+0. 1%F. S.		0. 05%+0. 1%F. S.		0. 05%+0. 1%F. S.	
Current measurement								
Range	0~6A	0~60A	0~1A	0~10A	0~12A	0~120A	0~2A	0~20A
Resolution	0. 1mA	1mA	0. 02mA	0. 2mA	0. 2mA	2mA	0. 04mA	0. 4mA
Precision	0. 05%+0. 1%F. S.		0. 05%+0. 1%F. S.		0. 05%+0. 1%F. S.		0. 05%+0. 1%F. S.	
Power measurement								
Range	0~300W		0~300W		0~600W		0~600W	
Resolution	5mW		5mW		10mW		10mW	
Precision	0. 5%+1%F. S.		0. 5%+1%F. S.		0. 5%+1%F. S.		0. 5%+1%F. S.	
Short-circuit characteristic								
Current(CC)	≒6A	≒60A	≒1A	≒10A	≒12A	≒120A	≒2A	≒20A
Voltage(CV)	0V		0V		0V		0V	
Other characteristic								
Temperature drift	100ppm/℃ (Typical value)		100ppm/℃ (Typical value)		100ppm/℃ (Typical value)		100ppm/℃ (Typical value)	
Weight	2. 7kg		2. 7kg		5. 5kg		5. 5kg	
Occupies the module installation bit	1		1		2		2	