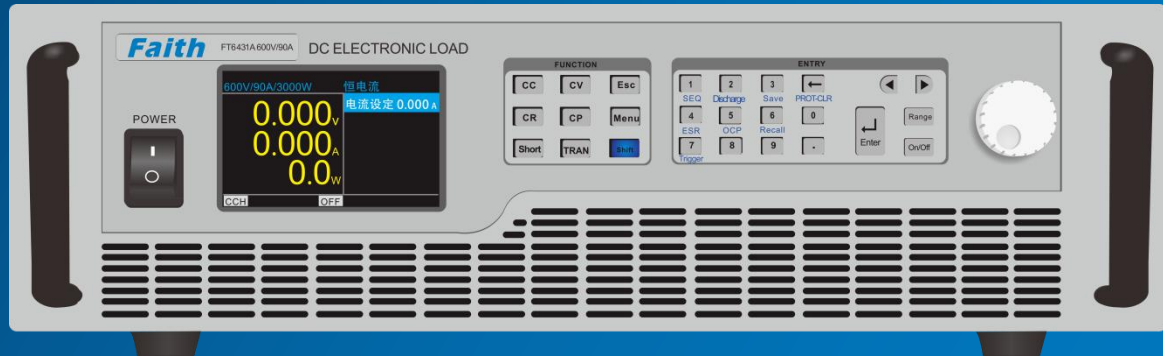


# FT6400A Series E-load (1200W, 2000W, 3000W)

## Programmable DC Electronic Load



FT6431A 600V/90A/3000W (3U)

- Voltage range: 150 V, 600 V;
- Current range: 30A...240A;
- Rated power: 1200 W, 2000 W, 3000 W;
- 20kHz dynamic test, adjustable rising/falling slew rate up to 9.6 A/us;
- OCP test, battery test, short circuit simulating;
- Time measurement, ( $V_{\text{peak+/-}}$ ) measurement;
- Programmable sequence test support CC, CV, CP, CR;
- OVP, OCP, OPP, OTP, RVP etc.;
- Support analog programming;
- Support SCPI, facilitates secondary development;
- Standard LAN, RS232 communication interfaces;
- 19-inch rack-mount 3U chassis, facilitates system integration.

### General

FT6400A series DC electronic load is complete with 150 V, 600 V voltage ranges and 1200 W, 2000 W and 3000 W power ranges. The current of a single unit ranges from 30 A to 240 A. The series provide 0.05%+0.05%F.S. and 0.1%+0.1%F.S. accuracy for voltage and current measurement respectively. In addition, FT6400 series offer 20 kHz dynamic load and adjustable rising and falling current slew rate. Most importantly, the current slew rate is up to 4.8 A/ $\mu$ s, 6.4 A/ $\mu$ s and 9.6 A/ $\mu$ s for 150V/120A/1200W, 150V/160A/2000W, 150V/240A/3000W models respectively, which is superior than most competing benchtop electronic loads.

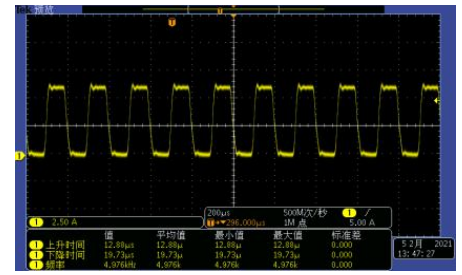
FT6400 series adopt 19-in rack-mount 3U chassis design, 4.3-inch color TFT screen, full keypad and rotary knob, convenient for benchtop users. The series also come with standard LAN and RS232 interfaces, support SCPI protocol, which is ideal for automated test systems.

Furthermore, the FT6400 series come standard with user programmable sequence, CV/CC/CP/CR modes and and built-in test routines for battery test, OCP test, short circuit simulation, time measurement,  $V_{\text{peak+}}$  /  $V_{\text{peak-}}$  measurement, etc., to name a few.

## FT6400A Series (1200 W, 2000 W, 3000 W)

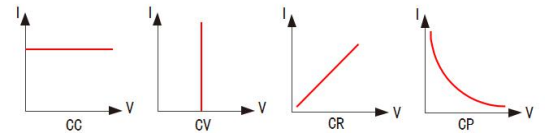
### Transient test

The FT6400A series programmable dc electronic loads provide high-speed programmable dynamic test functions (current dynamic and resistance dynamic testing). The dynamic test function allows users to set load high/low level, T1/T2 time and slew rate with a maximum slew rate 10A/us. It is often used to test the dynamic characteristics of the power supply. To meet the needs of different situations, the dynamic test includes three modes: continuous, pulse and flip. Continuous mode can provide up to 20kHz load frequency; in pulse and flip mode, trigger signal can be received to generate load change, allowing you to test as you want.



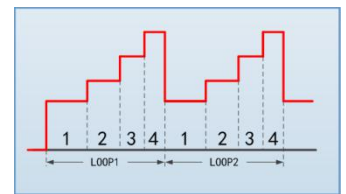
### Static test

The FT6400 series loads provides constant current, constant voltage, constant resistance and constant power operation modes to satisfy a wide range of test requirements.



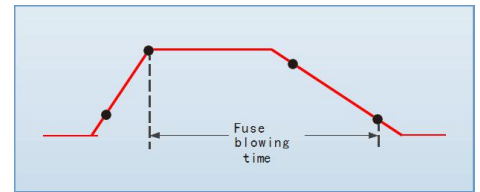
### Programmable sequence test

FT6400 series electronic loads provide sequence test function. Users can edit a load test sequence to simulate various load input changes.



### Time measurement

The FT6400A series has time measurement feature, which can capture external switching signals, combining with voltage and current signals to test system response and action time. For pulse currents, it can test its pulse width. It is mainly used to test the switching time, holding time, rising edge and falling edge time of the power supply. It can also measure the fuse blowing time and circuit breaker response time.

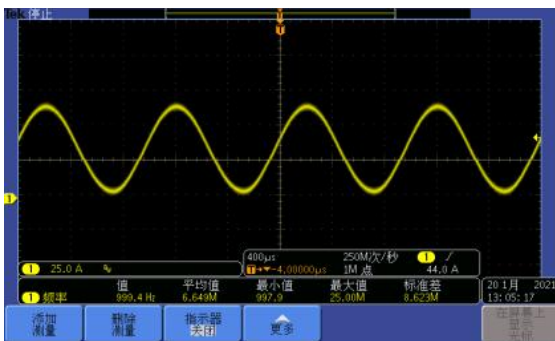


### Protections

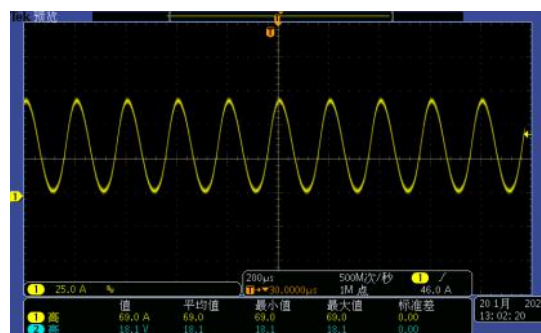
The FT6400A series provides OVP, OCP, OPP, OTP, voltage inversion protections, etc. In addition, users can set voltage, current, and power protection values as needed. When the output voltage of the device under test rises or falls slowly, the Von and Voff functions can be turned on. To meet more test requirements, the Von load voltage supports locking or non-locking.

### External analog programming

Other devices can continuously control the load through an external voltage signal (DC or AC). The external voltage signal of 0~10V corresponds to 0~100% full-scale load current. This function is also suitable for various complex load waveforms test.



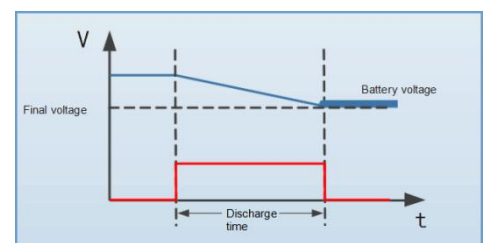
1kHz sine wave



5kHz sine wave

### Battery test

Battery test includes battery internal resistance test and battery capacity test. It adopts the constant current method for battery discharging process. The electronic load will records the discharge time and AH/WH automatically during the process.



FT6400A Series (1200 W, 2000 W, 3000 W)

**PC software**

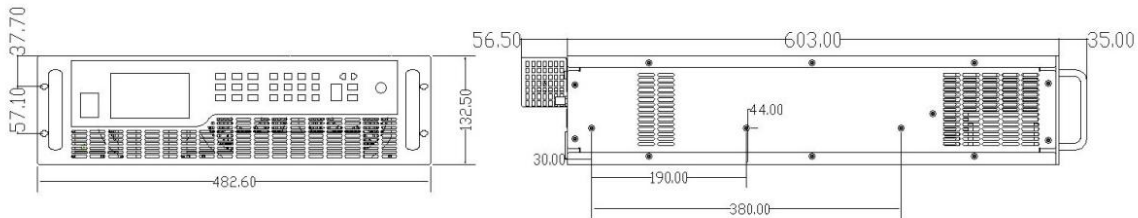
The FT6400 series provides a host PC software with virtual instrument function, which can read test data, generate images, export reports, print reports, etc. in real time, it is convenient for customers to use.

**Model options**

Model	Specification	Size
FT6412A	150V/120A/1200W	3U
FT6413A	600V/30A/1200W	3U
FT6420A	150V/160A/2000W	3U
FT6421A	600V/60A/2000W	3U
FT6430A	150V/240A/3000W	3U
FT6431A	600V/90A/3000W	3U

**Dimension**

FT6412~FT6431 Model dimension



Specification - 1						
Model	FT6412A	FT6413A	FT6420A	FT6421A	FT6430A	FT6431A
Voltage	150V	600V	150V	600V	150V	600V
Current	120A	30A	160A	60A	240A	90A
Power	1200W	1200W	2000W	2000W	3000W	3000W
Min Operate Voltage	2V@120A	5V@30A	2V@160A	5V@60A	2V@240A	5V@90A
Constant Current (CC)						
Range	12A/120A	3A/30A	16A/160A	6A/60A	24A/240A	9A/90A
Resolution	0.2mA/2mA	0.05mA/0.5mA	0.3mA/3mA	0.1mA/1mA	0.4mA/4mA	1.5mA/15mA
Low Range Accuracy	0.1%+0.15%F.S.					
High Range Accuracy	0.1%+0.15%F.S.					
Constant Voltage (CV)						
Range	30V/150V	120V/600V	30V/150V	120V/600V	30V/150V	120V/600V
Resolution	0.5mV/2.5mV	2mV/10mV	0.5mV/2.5mV	2mV/10mV	0.5mV/2.5mV	2mV/10mV
Low Range Accuracy	0.05%+0.1%F.S.					
High Range Accuracy	0.05%+0.1%F.S.					
Constant Power (CP) *2						
Range	0~1200W	0~1200W	0~2000W	0~2000W	0~3000W	0~3000W
Resolution	20mW	20mW	40mW	40mW	60mW	60mW
Accuracy	0.5%+1%F.S.					
Constant Resistance (CR) *2*3						

FT6400A Series (1200 W, 2000 W, 3000 W)

Low Range	0.1~75Ω	1.5~1200Ω	0.08~50Ω	0.8~600Ω	0.05~35Ω	0.55~400Ω
High Range	0.48~375Ω	7.5~6000Ω	0.4~250Ω	4~3000Ω	0.24~180Ω	2.6~2000Ω
Resolution	16 bits					
Low Range Accuracy	0.35%+0.075S					
High Range Accuracy	0.1%+0.005S					
Slew Rate						
Low Range Slew Rate	0.003~0.24A/us	0.003~0.06A/us	0.003~0.36A/us	0.003~0.12A/us	0.003~0.54A/us	0.003~0.18A/us
High Range Slew Rate	0.24~4.8A/us	0.06~1.2A/us	0.36~6.4A/us	0.12~2.4A/us	0.54~9.6A/us	0.18~3.6A/us
Accuracy	(1±35%)* Set value					
Voltage Measurement						
Range	30V/150V	120V/600V	30V/150V	120V/600V	30V/150V	120V/600V
Resolution	0.5mV/2.5mV	2mV/10mV	0.5mV/2.5mV	2mV/10mV	0.5mV/2.5mV	2mV/10mV
Accuracy	0.05%+0.05%F.S.					
Current Measurement						
Range	12A/120A	3A/30A	16A/160A	6A/60A	24A/240A	9A/90A
Resolution	0.2mA/2mA	0.05mA/0.5mA	0.3mA/3mA	0.1mA/1mA	0.4mA/4mA	1.5mA/15mA
Accuracy	0.1%+0.1%F.S.					
Temperature						
Protection Temp	85℃					
Operation Temp	0~40℃					
Full Power Operation Temp	0~25℃					
Others						
Weight	20kg	20kg	24kg	24kg	28kg	28kg
Communication	RS232, LAN					
Display	TFT LCD Display					
Dimension (mm)	483 (W) ×133 (H) ×600 (D)					