

## FTD Bidirectional Programmable DC Power Supply

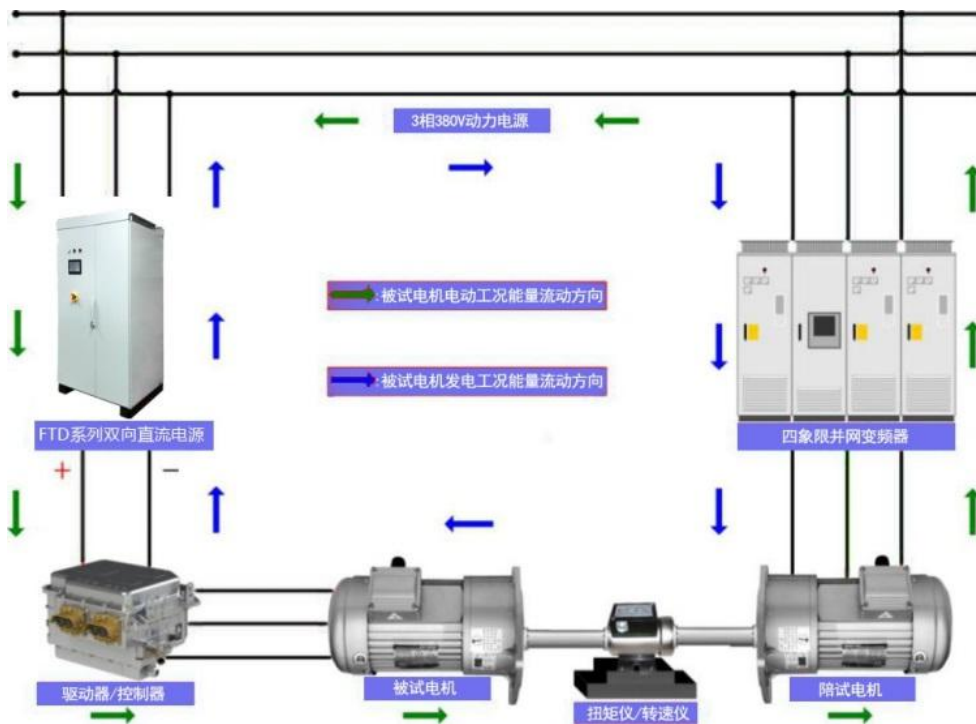
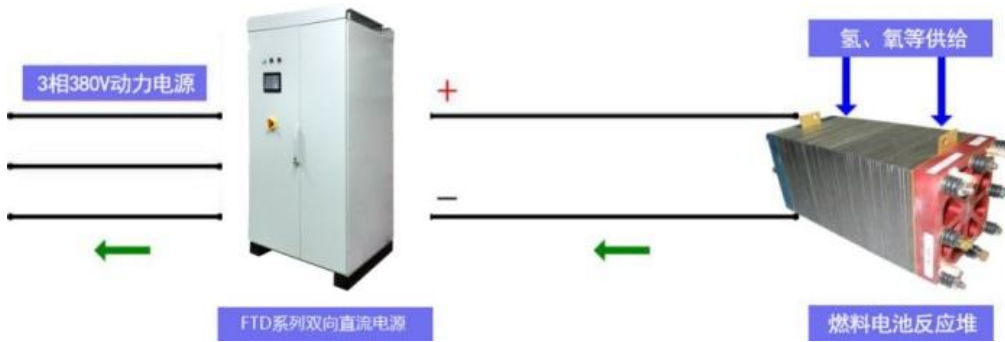


The bidirectional programmable DC power supply of FTD series combines two devices in one: a power supply (source) and an electronic load (sink) with energy recovery capability. Based on these two functions, FTD offers the functionality of two-quadrant operation. The regenerative capability enables the absorbed energy to be put back onto the power grid cleanly, saving costs of electricity and cooling, while not interfering with the grid. FTD series voltage ranges from 24V ~ 800V, output power ranges from 10kW ~ 500kW. FTD is the combination of high reliability, high efficiency, high safety and high accuracy measurement. Overall, FTD is a bidirectional, regenerative power system with excellent performance, extensively used in the testing of power battery pack, new energy automotive motor and controller, automotive electronics, power electronics, etc.

### Feature

- DC voltage range 24V ~ 800V, suitable for various kinds of applications;
- Bi-directional: power supply and electronic load in one;
- The circuit structure adopts three-phase PWM rectifier inverter + DC/DC bidirectional conversion two-stage circuit, which can realize a wide range of DC voltage output, high control accuracy, and fast dynamic response;
- High regenerative efficiency up to 94%;
- High dynamic characteristics, 10%~90% loading output voltage response time $\leq$ 5ms, +90%~-90% switching time $\leq$ 10ms;
- Power factor $>$ 0.99;
- Built-in AC isolation transformer + LC AC and DC filter, electrical isolation between input and output;
- Voltage/Current/Power setting and measurement at DC terminal;
- With power battery simulation function, the internal resistance of the simulated battery can be set freely according to the user's working conditions;
- Standard LAN, optional RS485 ports;
- TFT Touch screen operation.

### Regeneration Structure



## Model Options

Model	Rated Power (kW)	Voltage Range (Customizeable)
FTD15	15	24V~800V
FTD20	20	24V~800V
FTD30	30	24V~800V
FTD40	40	24V~800V
FTD50	50	24V~800V
FTD60	60	24V~800V
FTD80	80	24V~800V
FTD100	100	24V~800V
FTD120	120	24V~800V
FTD150	150	24V~800V
FTD200	200	24V~800V
FTD250	250	24V~800V
FTD300	300	24V~800V
FTD400	400	24V~800V
FTD500	500	24V~800V

## Specification

Specification - 1							
Model	FTD40	FTD80	FTD120	FTD150	FTD250	FTD300	
Rated Power	40kW	80kW	120kW	150kW	250kW	300kW	
Peak Power	48kW	96kW	144kW	180kW	300kW	360kW	
Voltage Range	24V~800V						
Rated Voltage	400V	267V	240V	300V	375V	450V	
Rated Current	100A	300A	500A	500A	667A	667A	
Peak Current	120A	360A	600A	600A	780A	780A	
DC Characteristic	CV Accuracy	Controlling accuracy: $\leq 0.1\%$ F.S.					
	CC Accuracy	Controlling accuracy: $\leq 0.1\%$ F.S.					
	Readback Voltage Accuracy	Controlling accuracy: $\leq 0.1\%$ F.S.					
	Readback Current Accuracy	Controlling accuracy: $\leq 0.1\%$ F.S.					
	Response Time	$\leq 5$ ms					
AC Regenerative Characteristic	Input	three-phrase four-wire system					
	AC Voltage	342V~400V (Allowed voltage range)					
	Rated Current	60A	120A	180A	225A	375A	450A
	Frequency	47.5Hz~52.5Hz(Allowed grid frequency)					
	Power Factor	$\geq 0.99$					
	Total Current Harmonics	$\leq 4\%$					
	Switching Time	$\leq 10$ ms					
	Regenerative Power	Support full scale power regeneration					
Communication Ports	Standard LAN, optional RS485						
External interface	Support emergency stop, stop/start, fault detection, operation state check						
Safety	Insulation Resistance	$\geq 20$ M $\Omega$					
	Withstand Voltage	2000VDC					
	Ground Resistance	$\leq 100$ m $\Omega$					
	Protection	OVP, OCP, OPP, OTP, phase protection, short circuit protection, voltage limit					
Noise	$\leq 72$ dB						
Protection Level	IP21						
Working Environment	Ambient Temperature	$-20^{\circ}\text{C} \sim 45^{\circ}\text{C}$					
	Ambient Humidity	10%~90%(no condensation)					
	Altitude	$\leq 2000$ m					
	Cooling	Air cooling					
Dimension (W*D*H) mm	615×650×1680	1000×1000×1960	1200×1000×1900	1800×1000×1900			