

FTPS series

Programmable bidirectional AC power supply(Feedback power grid simulator)



Features

- Bidirectional converter and energy feedback can provide 100% rated current feedback;
- Adopt modular power supply design, with high power density, small size and light weight, which is one tenth of the volume of traditional (transformer) power supply;
- Output frequency range: 1-550Hz;
- With high-precision measurement, it can measure root mean square voltage V_{rms} , root mean square current I_{rms} , active power W , frequency Hz , power factor PF , peak current I_{peak} etc;
- Adopt DDS digital waveform synthesis design, output high-precision voltage, extremely low waveform distortion;
- Including 50 harmonic editing function;
- With phase angle and initial angle editing function;
- 5V TTL level detection is available in voltage leap, phase leap and frequency leap, convenient for users to monitor sudden change conditions;
- Use touch screen and knob operation, convenient for parameter setting;
- Provide PC upper computer operation software to edit waveform, online voltage leap, frequency leap and phase leap setting;
- It has RS232, RS485, and LAN communication interfaces.



Summary

FTPS series programmable bidirectional AC power supply (feedback power grid simulator) can not only realize the Source function, but also feed back the energy generated by EUT to the power grid to realize bidirectional flow of energy.

FTPS series adopts digital control technology, modular power design, high power density, small size, and greatly reduces the failure rate. Its advanced direct digital frequency synthesizer (DDS) waveform generation technology makes the output frequency stable and continuous, and the output frequency range is 1-550Hz. In addition, the FTPS series provides a precise measurement function, which can measure the root mean square voltage V_{rms} , root mean square current I_{rms} , active power W , frequency Hz , power factor PF , peak current I_{peak} , etc.

FTPS series has a variety of communication interfaces such as RS232, RS485, LAN etc. It provides rich test functions and simple human-computer interface, and is widely used in high-power test scenarios such as automotive electronics, energy storage and automated testing.

Application field

- Home appliance field: test and durability experiment of home appliance products;
- Communication field: communication power supply, for communication electronic products testing and aging;
- Aerospace and aviation: testing and power supply of aerospace and avionics products;
- Research field: testing and electrical experiments of scientific research institutions, colleges, certification institutions and other institutions;
- Laboratories, production lines, charging rooms, aging rooms and other places that need long-term stable DC power supply;
- Automatic test field: DC power output and test product power supply in automatic test system.

Ordering information

Product type	Model	Input	Output	Phase voltage	Phase current	Power	Dimension
Three phase input single phase output	FTPS3105	3 ϕ 4W+G	1 ϕ 2W+G	0-350V	30A	5KVA	4U
	FTPS3110	3 ϕ 4W+G	1 ϕ 2W+G	0-350V	60A	10KVA	4U
	FTPS3115	3 ϕ 4W+G	1 ϕ 2W+G	0-350V	90A	15KVA	4U
Three phase input three phase output	FTPS3315	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	30A	15KVA	8U
	FTPS3330	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	60A	30KVA	8U
	FTPS3360	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	90A	60KVA	900 (W) *1750 (H) *900 (D)
	FTPS33100	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	151A	100KVA	1100 (W) *2000 (H) *1050 (D)
	FTPS33150	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	227A	150KVA	1300 (W) *2000 (H) *1250 (D)
	FTPS33200	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	303A	200KVA	1300 (W) *2000 (H) *1250 (D)
	FTPS33250	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	378A	250KVA	1400 (W) *2000 (H) *1350 (D)
	FTPS33300	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	453A	300KVA	1400 (W) *2000 (H) *1350 (D)
	FTPS33450	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	680A	240KVA	800 (W) *2000 (H) *1050 (D) *3
	FTPS33600	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	906A	240KVA	1300 (W) *2000 (H) *1250 (D) *3
	FTPS33900	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	1356A	240KVA	1300 (W) *2000 (H) *1250 (D) *3

Specification table-1

Model	FTPS3105	FTPS3110	FTPS3115	FTPS3315	FTPS3330	FTPS3360	FTPS33100
Capacity	5KVA	10KVA	15KVA	15KVA	30KVA	60KVA	100KVA
Production mode	SPWM						
INPUT							
Phase	3 φ 4W+G						
Voltage	380V±20%						
Frequency	47Hz – 63Hz						
PFC	0.99 Max						
THDI	≤5%						
OUTPUT							
Phase	1 φ 2W+G			3 φ 4W+G			
Phase φ	φ：0–360°			A φ: 0-360°; B φ: 0-360°; C φ: 0-360°; 0.5°Step Three-phase phase angle independently adjustable, dynamic phase adjustable, low grid crossing			
Start angle	0–360°			A：0-360°; B：0-360°; C：0-360°; 0.5°Step 3-phase start angle independently adjustable			
Harmonic edit	2–50 Times						
Phase voltage	0–350VAC			A: 0-350VAC; B: 0-350VAC; C: 0-350VAC; 0.1v Step three-phase voltage independently adjustable			
Phase current	30A	60A	90A	30A	60A	90A	151A
Frequency	1Hz–550Hz					40Hz–120Hz	
Efficiency	93%(typical)						
Energy feedback	100%energy feedback						
Linear regulation	0.01%						
Load regulation	0.20%						
T. H. D	0.5%@pure resistive load, 0.9%@Non-linear load						
Transient recovery time	<1ms (voltage 10%-90%)						
Frequency regulation	0.01%						
Voltage resolution	0.1V						
Frequency resolution	0.01Hz						
Current resolution	0.01A						
Measurement accuracy	Voltage	0.2%F. S. +5dgt					
	Current	0.2%F. S. +5dgt					
	Wattage	0.2%F. S. +5dgt					
	Frequency	0.01%F. S. +5dgt					
Setting accuracy	Voltage	0.1%F. S.					
	Current	0.01%F. S.					
Volt programming mode	Step mode, gradual change mode, abrupt change mode						
Freq programming mode	Step mode, gradual change mode, abrupt change mode						
Phase programming mode	Step mode, gradual change mode, abrupt change mode						
Communication interface	RS232、RS485、LAN						
Current limited (I-LIM) set	0–Max Current						
Input and output isolation	Input to Output 2500V withstand voltage						
Auxiliary test function	Voltage jump, frequency jump, phase jump, 5V TTL 1mS Pulse						
OUTPUT ON/OFF	5V TTL						
Protection	Over current protection, over voltage protection, over temperature protection, overload protection, short circuit protection						
Cooling mode	Air cooling						
Environment	–10℃~50℃/10%~90%RH						

Specification table-2

Model		FTPS33150	FTPS33200	FTPS33250	FTPS33300	FTPS33450	FTPS33600	FTPS33900
Capacity		150KVA	200KVA	250KVA	300KVA	450KVA	600KVA	900KVA
Production mode		SPWM						
INPUT								
Phase		3 φ 4W+G						
Voltage		380V±20%						
Frequency		47Hz – 63Hz						
PFC		0. 99 Max						
THDI		≤5%						
OUTPUT								
Phase		3 φ 4W+G						
Phase φ		A φ: 0-360°; B φ: 0-360°; C φ: 0-360°; 0.5°Step Three-phase phase angle independently adjustable, dynamic phase adjustable, low grid ride through						
Start angle		A : 0-360°; B : 0-360°; C : 0-360°; 0.5°Step Three-phase start angle independently adjustable						
Harmonic edit		2–50 Times						
Voltage		A: 0-350VAC; B: 0-350VAC; C: 0-350VAC; 0.1v Step three-phase voltage independently adjustable						
Current		227A	303A	378A	453A	680A	906A	1356A
Frequency		40Hz–120Hz						
Linear regulation		0. 01%						
Load regulation		0. 20%						
Efficiency		93% (typical)						
Energy feedback		100% energy feedback						
T. H. D		0.5%@pure resistive load, 0.9%@Non-linear load						
Transient recovery time		<1ms (voltage 10%-90%)						
Frequency regulation		0. 01%						
Voltage resolution		0. 1V						
Frequency resolution		0. 01Hz						
Current resolution		0. 01A						
Measurement accuracy	Voltage	0. 2%F. S. +5dgt						
	Current	0. 2%F. S. +5dgt						
	Wattage	0. 2%F. S. +5dgt						
	Frequency	0. 01%F. S. +5dgt						
Setting accuracy	Voltage	0. 1%F. S.						
	Current	0. 01%F. S.						
Volt programming mode		Step mode, gradual change mode, abrupt change mode						
Freq programming mode		Step mode, gradual change mode, abrupt change mode						
Phase programming mode		Step mode, gradual change mode, abrupt change mode						
Communication interface		RS232、RS485、TCP/IP						
Current limited (I-LIM) set		0–Max Current						
Input and output isolation		Input to Output 2500V withstand voltage						
Auxiliary test function		Voltage jump, frequency jump, phase jump, 5V TTL 1mS Pulse						
OUTPUT ON/OFF		5V TTL						
Protection		Over current protection, over voltage protection, over temperature protection, overload protection, short circuit protection						
Cooling		Air cooling						
Environment		–10℃～50℃/10%～90%RH						