

FTPF series

Programmable AC power supply



Summary

FTPF 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, can obtain high stability and continuity of output frequency, and the output frequency range is 1-550Hz.

FTPF series has independent adjustable three-phase voltage and frequency, editable harmonics, adjustable initial phase and online variable phase and strong adaptability to nonlinear loads. In addition, the FTPF 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.

FTPF series has a variety of communication interfaces such as RS232, RS485, CAN, LAN, etc. It provides rich test functions and simple human-computer interface, and it 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 AC power supply;
- Automatic test field: AC power output and test product power supply in automatic test system.

Features

- Adopt modular power supply design with high power density, small size and light weight, which is one tenth 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, CAN2.0B and LAN communication interfaces.



Ordering information

Product type	Model	Input	Output	Phase voltage	Phase current	Power	Dimension
Single-phase in single-phase out	FTPF1103	1 ϕ 2W+G	1 ϕ 2W+G	0-350V	18A	3KVA	2U
	FTPF1105	1 ϕ 2W+G	1 ϕ 2W+G	0-350V	30A	5KVA	2U
	FTPF1110	1 ϕ 2W+G	1 ϕ 2W+G	0-350V	60A	10KVA	4U
Three-phase in single-phase out	FTPF3110	3 ϕ 4W+G	1 ϕ 2W+G	0-350V	60A	10KVA	2U
	FTPF3115	3 ϕ 4W+G	1 ϕ 2W+G	0-350V	90A	15KVA	4U
	FTPF3130	3 ϕ 4W+G	1 ϕ 2W+G	0-350V	180A	30KVA	4U
Three-phase in single-phase out	FTPF1310	1 ϕ 2W+G	3 ϕ 4W+G	0-350V	20A	10KVA	4U
Three-phase in three-phase out	FTPF3315	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	30A	15KVA	6U
	FTPF3330	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	60A	30KVA	6U
	FTPF3360	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	90A	60KVA	900 (W) *1750 (H) *900 (D)
	FTPF33100	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	151A	100KVA	800 (W) *2000 (H) *1050 (D)
	FTPF33150	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	227A	150KVA	1100 (W) *1650 (H) *850 (D)
	FTPF33200	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	303A	200KVA	1300 (W) *2000 (H) *1250 (D)
	FTPF33250	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	378A	250KVA	1400 (W) *2000 (H) *1350 (D)
	FTPF33300	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	453A	300KVA	1400 (W) *2000 (H) *1350 (D)
	FTPF33450	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	680A	450KVA	800 (W) *2000 (H) *1050 (D) *3
	FTPF33600	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	906A	600KVA	1300 (W) *2000 (H) *1250 (D) *3
	FTPF33900	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	1356A	900KVA	1300 (W) *2000 (H) *1250 (D) *3

Optional accessories

Name	Model or Spec.	Description
Extended frequency optional part	Suffix G	Output frequency 1Hz~1000Hz

Specification table-1

Model	FTPF1103	FTPF1105	FTPF1110	FTPF3110	FTPF3115	FTPF3130	FTPF1310
Capacity	3KVA	5KVA	10KVA	10KVA	15KVA	30KVA	10KVA
Production mode	SPWM						
INPUT							
Phase	1 φ 2W+G			3 φ 4W+G			1 φ 2W+G
Voltage	220V±20%			380V±20%			220V±20%
Frequency	47Hz – 63Hz						
PFC	0.99 Max						
THDI	≤3%						
OUTPUT							
Phase	1 φ 2W+G						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 is independently adjustable, dynamic phase is adjustable, and low power grid crossing						
Start angle	A: 0-360°; B: 0-360°; C: 0-360°; 0.5°Step three phase initial angle is independently adjustable						
Harmonic edit	2-50 Times						
Voltage	A: 0-350VAC; B: 0-350VAC; C: 0-350VAC; 0.1v Step,three phase voltage is independently adjustable						
Current	18A	30A	60A	60A	90A	180A	20A
Frequency	1Hz-550Hz						
Efficiency	93%(typical)						
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	Air cooling						
Environment	-10℃~50℃/10%~90%RH						

Specification table-2

Model	FTPF3315	FTPF3330	FTPF3360	FTPF33100	FTPF33150	FTPF33200	FTPF33250
Capacity	15KVA	30KVA	60KVA	100KVA	150KVA	200KVA	250KVA
Production mode	SPWM						
INPUT							
Phase	3 φ 4W+G						
Voltage	380V±20%						
Frequency	47Hz – 63Hz						
PFC	0. 99 Max						
THDI	≤3%						
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 is independently adjustable, dynamic phase is adjustable, and low power grid crossing						
Start angle	A: 0-360°; B: 0-360°; C: 0-360°; 0.5°Step three phase initial angle is independently adjustable						
Harmonic edit	2–50 Times						
Voltage	A: 0-350VAC; B: 0-350VAC; C: 0-350VAC; 0.1v Step,three phase voltage is independently adjustable						
Current	30A	60A	90A	151A	227A	303A	378A
Frequency	1Hz–550Hz		40Hz–120Hz				
Linear regulation	0. 01%						
Load regulation	0. 20%						
Efficiency	93%(typical)						
Energy feedback	100% Energy return						
T. H. D	0.5% @ purely resistive loads, 0.9% @ non-linear loads						
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						

Specification table-3

Model	FTPF33300	FTPF33450	FTPF33600	FTPF33900
Capacity	300KVA	450KVA	600KVA	900KVA
Production mode	SPWM			
INPUT				
Phase	3 φ 4W+G			
Voltage	380V±20%			
Frequency	47Hz – 63Hz			
PFC	0. 99 Max			
THDI	≤3%			
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 is independently adjustable, dynamic phase is adjustable, and low power grid crossing			
Start angle	A: 0-360°; B: 0-360°; C: 0-360°; 0.5°Step three phase initial angle is independently adjustable			
Harmonic edit	2–50 Times			
Voltage	A: 0-350VAC; B: 0-350VAC; C: 0-350VAC; 0. 1v Step,three phase voltage is independently adjustable			
Current	453A	680A	906A	1356A
Frequency	40Hz– 120Hz			
Linear regulation	0. 01%			
Load regulation	0. 20%			
Efficiency	93%(typical)			
Energy feedback	100% Energy return			
T. H. D	0.5% @ purely resistive loads, 0.9% @ non-linear loads			
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			