

FTPF series

Programmable AC power supply



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: 45-120Hz;
- 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.



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 45-120Hz.

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.

Ordering information

Product type	Model	Input	Output	Phase voltage	Phase current	Power	Dimension
Single phase input, single phase output	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
Three phase input, single phase output	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	6U
	FTPF3130	3 ϕ 4W+G	1 ϕ 2W+G	0-350V	180A	30KVA	6U
Single phase input, three phase output	FTPF1303	1 ϕ 2W+G	3 ϕ 4W+G	0-350V	6A	3KVA	4U
	FTPF1306	1 ϕ 2W+G	3 ϕ 4W+G	0-350V	12A	6KVA	6U
	FTPF1309	1 ϕ 2W+G	3 ϕ 4W+G	0-350V	18A	9KVA	6U
Three phase input, three phase output	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
	FTPF3345	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	90A	45KVA	600(W)*1200(H)*850(D)
	FTPF3360	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	120A	60KVA	600(W)*1200(H)*850(D)
	FTPF3390	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	180A	90KVA	600(W)*1650(H)*850(D)
	FTPF33120	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	240A	120KVA	600(W)*1650(H)*850(D)
	FTPF33150	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	300A	150KVA	1100(W)*1650(H)*850(D)
	FTPF33180	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	360A	180KVA	1100(W)*1650(H)*850(D)
	FTPF33210	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	420A	210KVA	1100(W)*1650(H)*850(D)
	FTPF33240	3 ϕ 4W+G	3 ϕ 4W+G	0-350V	480A	240KVA	1100(W)*1650(H)*850(D)

*The specifications and models of larger power are not listed;

Optional accessories

Optional part 1

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

Optional accessories 2 AC input and output cable selection list

Cable specification	AC6-3P20M	AC25-5P20M	AC25-5P40M	AC70-4P40M
Corresponding model	Single phase 5kVA and below	Three phase 30KVA and below	Three phase 30KVA and below	Three phase 120KVA and below
Terminal	Type O M4/none	Type O M5/none	Type O M5/none	Type O M8/none
Length	About 2m	About 2m	About 4m	About 4m

Specification

Specification-1					
Model	FTPF1103		FTPF1105	FTPF3110	FTPF3330
Capacity	3KVA		5KVA	10KVA	30KVA
Modulation mode	SPWM				
AC INPUT					
Number of Phases	1φ2W+G			3φ4W+G	
Voltage	220V±20%			380V±20%	
Frequency	47Hz - 63Hz				
PF	0.99 Max				
THDI	≤3%				
AC OUTPUT					
Number of Phases	1φ2W+G				3φ4W+G
Phase angle 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				
Initial 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				
Phase Voltage	A: 0-350VAC; B: 0-350VAC; C: 0-350VAC; 0.1v Step,three phase voltage is independently adjustable				
Current	18A	30A	60A	60A	
Frequency	45Hz-120Hz				
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、CAN2.0B、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°C~50°C/10%~90%RH			

Specification

Specification-2							
Model	FTPF3360	FTPF3390	FTPF33120	FTPF33150	FTPF33180	FTPF33210	FTPF33240
Power	60KVA	90KVA	120KVA	150KVA	180KVA	210KVA	240KVA
Modulation mode	SPWM						
AC INPUT							
Number of Phases	3φ4W+G						
Voltage	380V±20%						
Frequency	47Hz - 63Hz						
PF	0.99 Max						
THDI	≤3%						
AC OUTPUT							
Number of Phases	3φ4W+G						
Phase angle 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						
Initial 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						
Phase Voltage	A: 0-350VAC; B: 0-350VAC; C: 0-350VAC; 0.1v Step, three phase voltage is independently adjustable						
Current	120A	180A	240A	300A	360A	420A	480A
Frequency	45Hz-120Hz						
Linear Regulation	0.01%						
Load Regulation	0.20%						
Efficiency	93%(typical)						
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					
	Power	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、CAN2.0B、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 mode		Air cooling					
Work Environment		-10°C~50°C/10%~90%RH					