

AC Power Supply

Multi-Mode Output Programmable Frequency Conversion AC Power Supply TFP-A Series

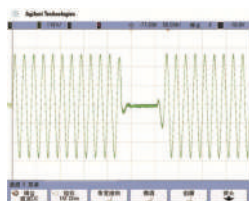
Product description:

TFP-A programmable AC Power Supply can provide power grid electricity from all over the world and according to rated standard rules to simulate the normal and abnormal condition of power grid. Suitable for laboratory, certification authority, university, research institutes, meet the product requirements of design, development and certification test. The products are widely used in new energy industry such as energy storage inverter, photovoltaic inverter, wind energy converter, it also can be used in household appliance, motor test in laboratory. The product adopts advanced digital high frequency inverter control technology and high speed digital controller, achieve the SIN output wave of high accurate, fast dynamic response speed, high load adaptability, high stability, wide output range. With many output modes and strong programmable function, It is power grid simulated equipment with high effectiveness and good performance.

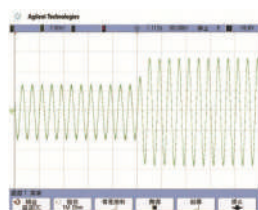


Features

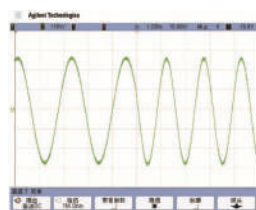
- Strong output management function
- 3 phase standard mode: standard 3 phase voltage output
- 3 phase balance mode: each phase voltage can be set in separately phase angle can be adjusted between 0.0~399.9
- Single phase separated mode: each phase voltage and frequency both can be set separately, Equivalent to 3 units of single phase power supply
- Single phase parallel mode, 3 phase connection in parallel to achieve single phase output with large power capacity
- With list, step and various sequence test function, comply with the requirements of IEC61000-4-11, IEC61000-4-34
- Fast dynamic response speed, time of abrupt voltage change in 20ms.



- Output waveform can be adjusted in real time, output voltage and output frequency setting can be adjusted in real time by numeric key, +/- button or Knob, It also change the output waveform mode and update output immediately. Observe the performance of equipment under test at certain time of abnormal power grid situation.



Voltage Switching



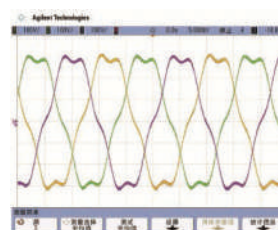
Current Switching

- With the Auto-lock function, lock the key automatically understand the condition of unmanned operation, avoid the wrong touching to cause the man-made accident or danger.

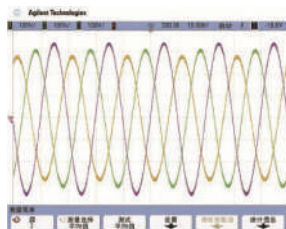
- 8 inch colored LCD display with the input key of number key, function key, knob, exquisite appearance, easy operation.
- Build in multifunction, high speed and precision, measure accurately Vrms, Irms, peak current, voltage peak factor, actual power, apparent power, power factor and so on.
- With the AI-Monitor function, monitor the internal voltage, current, temperature at real time, In case of the abnormality, trigger the alarm immediately and prompt the operator to deal with it in time.
- With the Black-Box function, while the accident occur without people monitor, record automatically internal and ext-operating parameters and save into internal dedicated chip, all the data can be checked at any time, learn more the details of accident to do maintenance easily.
- The main components adopt the international famous brand with good quality and stable usage.
- The key technical of equipment adopts multi-design margin, voltage stress, current stress, calorific value are strictly demonstrated in technique and seriously verified. High reliability, long life time.
- Complete communication ports, standard RS232, optional RS485, GPIB, LAN, Analog control.

Product Application Advantage

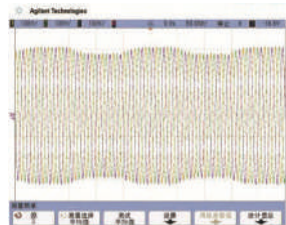
- Three-phase decoupling design with complete power grid abnormal simulation function: power grid distortion, power grid fluctuation, three phase unbalance, 2-40 times harmonics can be superimposed in harmonic mode.



Voltage Distortion



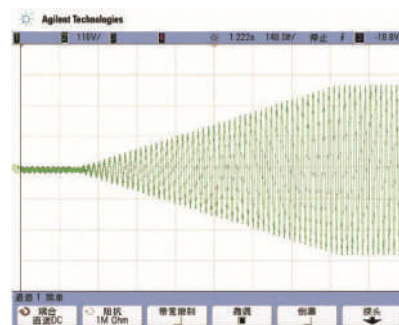
3 phase unbalance



Voltage Fluctuation

overload capability, capacity can be reduced appropriately and saved the cost when choose the anti-impulsed power supply model such as 90kva power supply can start 30kva motor.

- ◆ With soft-start function and soft-start time can be set, suitable for motor and other high start equipment, accord the situation to set soft-start time with and decrease surge current.



- ◆ Adopt the accurate anti-impulse technology, withstand load high current surge, three rated current can be endured 2s, especially suitable for motor and other surge equipment. Due to the strong

Specifications

Model		TFP-015A	TFP-030A	TFP-045A	TFP-060A	TFP-090A	TFP-120A	TFP-150A	TFP-180A	TFP-240A
Output Capacity		15kVA	30kVA	45kVA	60kVA	90kVA	120kVA	150kVA	180kVA	240kVA
Basic Function										
Output function		Simulate power grid voltage from all over the world								
Isolated function		Built-in Isolated transformer								
Wire Method		Input : Three-phase, 4 wires+PE / Output : Three-phase 4 wires + PE, Single-phase 2 wires+PE								
Output Parameter										
Output Mode		Standard 3 phase mode, Unbalance 3 phase mode, Separated Single phase mode. Parallel single phase mode								
Output Voltage	Automatic	Low range : 0.0 ~ 150.0V (L-N) / High range : 150.1 ~ 300.0V (L-N)								
	High-end Lock	0.0 ~ 300.0V (L-N)								
Voltage Setting Accuracy		≤0.5%FS, Resolution : 0.1V								
Standard 3 phase Mode, Unbalance 3 phase Mode, Separated Single phase Mode										
Rate (L-N)	110V (Low grade)	45.5A	90.9A	136.3A	181.8A	272.6A	363.6A	454.5A	545.4A	727.2A
Current	220V (High grade)	22.7A	45.5A	68.1A	90.9A	136.3A	181.8A	227.2A	272.7A	363.6A
Parallel Single phase Mode										
Rate (L-N)	110V (Low grade)	136.3A	272.7A	409.1A	545.5A	818.2A	1090.9A	1363.6A	1636.3A	2181.9A
Current	220V (High grade)	68.1A	136.3A	204.5A	272.7A	409.1A	545.4A	681.8A	818.2A	1090.9A
Output Frequency		45.00 ~ 240.00Hz								
Frequency Setting Accuracy		Accuracy : 0.02% Resolution : 0.01Hz								
Frequency Stability		≤ 0.02%								
Voltage Distortion (THD)		<1% (linear load)								
Response Time		≤ 2mS								
Voltage Sudden response Time		≤ 20mS								
Three-phase Phase Angle		120° ± 2 (standard 3 phase mode)								
Crest Factor		1.14 ± 0.1 (sinewave mode)								
Source Voltage Effect		≤1%								
Loading Effect		≤1%								
Efficiency		>85%								
Measurement Display										
Display Mode		8 inch color LCD Screen								
Voltage Meas. Accuracy		Accuracy : 0.2%F.S + 0.3% x Reading value, Resolution : 0.1V								
Frequency Meas. Accuracy		Accuracy : 0.02%, Resolution : 0.01Hz								
Current Meas. Accuracy		Accuracy : 0.3%F.S±0.4% x Reading value, Resolution : 0.1A/1A								
Power Meas. Accuracy		Accuracy : 0.5%F.S±0.7% x Reading value, Resolution : 0.1kW / 0.01kW / 0.001kW								
Operation Function										
Step Mode		9999 steps								
List Mode		100 steps, 999999 cycles								
Variations Mode		100 steps, 999999 cycles								
Waveform Mode		Sinewave or with Harmonic (2 ~ 40 class)								
Auto Storage Function		Auto storage, auto call after turn on Power Supply								
Soft Start		Fix with soft start function, start time (range : 0.0 ~ 99.9 s) can be set								
Real-time adjustment		Under regular output status, through number key, ▲/▼ button and knob, output voltage and frequency setting value can be updated in real time								
Line Volt-drop compensation		Under regular output status, change output waveform mode and update in real time								
Fast Call Function		Resistance compensation : 0.000 ~ 0.500Ω								

Model	TFP-015A	TFP-030A	TFP-045A	TFP-060A	TFP-090A	TFP-120A	TFP-150A	TFP-180A	TFP-240A
Protection Function									
Overload Capacity	105% < Output ≤ 110%, the output will be stopped within 15s								
	110% < Output ≤200%, the output will be stopped within 5s								
	200% < Output ≤ 300%, the output will be stopped within 2s								
	300% < Output the output will be stopped immediately								
Protection Device	IGBT over current, IGBT overheat, transformer overheat, Output over/under voltage, output phase lack, over current, over load, short circuit								
Software Protection	Artificial interlligence monitoring (AI-Monitor) function, Black-Box function, Auto-Lock key function								
Remote Interface									
Communication Interace	Standard : RS-232 / Optional : RS-485, GPIB, Ethernet								
Remote Interface	Optional: Analog control interface								
Input Parameter									
Input Voltage Range	Three-phase 4 wires + PE, 380V±57V (L-L)								
Input Freqnecy Range	45 ~ 65Hz								
Working Environment									
Operation Temperature	0 ~ 40℃								
Operation Humidity	20 ~ 90%RH (non-condensation)								
Dimension (WxHxD) mm.	1000 x 2000 x 800		1200 x 2000 x 80			1200 x 2000 x 1000			
Weight (kg.)	320	365	500	630	820	1100	1300	1350	1420

Ordering Information

- TFP-015A** : 15kVA Multi-mode Programmable Frequency Conversion AC Power Supply
- TFP-020A** : 20kVA Multi-mode Programmable Frequency Conversion AC Power Supply
- TFP-030A** : 30kVA Multi-mode Programmable Frequency Conversion AC Power Supply
- TFP-045A** : 45kVA Multi-mode Programmable Frequency Conversion AC Power Supply
- TFP-060A** : 60kVA Multi-mode Programmable Frequency Conversion AC Power Supply
- TFP-090A** : 90kVA Multi-mode Programmable Frequency Conversion AC Power Supply
- TFP-120A** : 120kVA Multi-mode Programmable Frequency Conversion AC Power Supply
- TFP-150A** : 150kVA Multi-mode Programmable Frequency Conversion AC Power Supply
- TFP-180A** : 180kVA Multi-mode Programmable Frequency Conversion AC Power Supply
- TFP-210A** : 210kVA Multi-mode Programmable Frequency Conversion AC Power Supply
- TFP-240A** : 240kVA Multi-mode Programmable Frequency Conversion AC Power Supply

Standard Accessories :

- User Manual
- Operation Software

Optional Accessories :

- RS-485 interface port
- GPIB interface port
- LAN/ Ethernet interface port
- Analog output control
- Can be customized as requirement power upto 1200kVA
- Customized specifications and functions acceptable