



APF General Features

- ▲ **DDS Technology:** Applied with the advanced Direct Digital Synthesis (DDS) technology, frequency stability is excellent.
- ▲ **Desirable Output Voltage and Frequency:** You can set your desirable output voltage and frequency. Output voltage is 0~300V; Output frequency is 45~500Hz.
- ▲ **General Program Memory Function:** With up to 10 memory programs, you can just save the values you used before, and use them again for the next time very easily.
- ▲ **Advanced Program Memory Function:** With 20 setting and operating programs, which are able to expand up to 99 programs, you can set and save the voltage, frequency, and operating time of each program. The setting time frame is from 1 sec to 99 hours.
- ▲ **Changeable Program Memory Function:** You can set the frequency, operating time, start voltage, and end voltage of each group. The system can automatically distinguish the outputs, and slowly increase or decrease the outputs to reach the different setting values within the setting period of time. The setting time frame is from 1 sec to 99 hours.
- ▲ **Complete Measurement Functions:** Comprehensive measurement capability including: Three phase voltage, Three phase current, P, VAR, VA, Total power of three phase, PF, Ipk, Crest factor, etc.
- ▲ **Correction function:** Automatically detect and correct the wrong input data.
- ▲ **Complete Communication Interface:** Easy to operate with RS-232, RS-485, IEEE488 (GPIB) interfaces.
- ▲ **Full Protection:** Overload, Over voltage, Over current, Over temperature, Short circuit, etc. protections.
- ▲ **LCD Display:** Easy-use LCD display for operation.
- ▲ **Safety Key Lock Function**

Programmable AC Power Source/ Frequency Converter

Application & Service

AC Power Corp offers products widely applied in multi-professional fields and provides the best power solutions to customers. Our mission is to satisfy customers' demand by considering the whole conditions including power environment, loading allocation, module solution alternative, thoughtful design, efficient manufacturing, and complete maintenance.

Application



Industrial Field:

Home Electrical Appliances Manufacturers of

- ▲ Washing Machine
- ▲ Refrigerator
- ▲ Vacuum Cleaner
- ▲ Microwave Oven
- ▲ Air Conditioner
- ▲ Blender

Electric & Electronic Manufacturers of

- ▲ Switching Power Supply Testing
- ▲ Ballast (in Bulb, Fluorescent Lamp)
- ▲ Uninterruptible Power Supply
- ▲ Charger
- ▲ Relay
- ▲ Passive Components

Electric Machinery Manufacturers of

- ▲ Compressor
- ▲ Transformer
- ▲ AC Fan
- ▲ Motor

IT field

- ▲ OA Equipment
- ▲ Fax machine, Copy machine, Shredder
- ▲ Printer, Scanner & Peripherals
- ▲ Computer & Monitor

General Lab.:

- ▲ AC Power Source Testing
- ▲ Life & Safety Test
- ▲ EMC Test
- ▲ OQC (FOC) Test
- ▲ Product Test
- ▲ Product Researches & Development

400Hz output frequency:

- ▲ Aerospace
- ▲ Airport Grounding Facilities, including
- ▲ Airport Terminal, Control Tower, Apron
- ▲ Avionics Equipment
- ▲ Air Force System Diagnostics
- ▲ Military System Diagnostics
- ▲ Navy System Diagnostics
- ▲ Marine System
- ▲ Satellite Navigator
- ▲ Switching Power Supply of Super Computer
- ▲ 400Hz Equipment & Instruments



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NO:APF060701



Programmable AC Power Source Frequency Converter



APF series
500VA~60KVA

Profession Power Solution Provider



Form: APF Input Voltage Range

A	100 V	1Ø2W+G
B	110 V	
C	115 V	
D	120 V	
E	200 V	1Ø2W+G or 3Ø3W+G (Δ-connection)
F	208 V	
G	220 V	
H	230 V	
I	240 V	3Ø3W+G (Δ-connection)
J	380 V	
K	400 V	
L	415 V	
M	440 V	1Ø3W+G
N	480 V	

O	110/190 V	3Ø4W+G or 3Ø3W+N+G (Y-connection)
P	115/200 V	
Q	120/208 V	
R	127/220 V	
T	220/380 V	
U	230/400 V	
V	240/415 V	
W	254/440 V	
X	100/200 V	1Ø3W+G
Y	110/220 V	
Z	115/230 V	

• Other Input Voltages not listed in this form are all **S** (Special Specification) type.

APF Application Purpose

- Manufacturers of Electric / Electronic / Electric Machinery Products for Export:**
 - Such as (Home) Electrical products, Ballast, Computer & Peripherals, UPS, etc.
 - To be used as worldwide voltage and frequency simulation for
 - Product Research & Development
 - Manufacturing
 - QA/QC Test
 - Product Characteristics Test. Will product characteristics vary with input (utility power) frequency, 50 Hz or 60 Hz $\pm 5\%$ typically?
 - Life Test
- Switching Power Supply Test / Transformer Test:**
 - Most of the electric products has transformer or switching power supply at the input, frequency converter is to be used as:
 - Voltage Simulation. Input voltage range test, $\pm 10\% \sim \pm 20\%$ typically
 - Frequency Simulation. Will product characteristics vary with input (utility power) frequency, 50 Hz or 60 Hz $\pm 5\%$ typically?
 - The unit size, power consumption, efficiency, initial current and heat dissipation are related to frequency.
 - Meet light, Thin, Short & Small request. The higher of working frequency, the smaller of the unit size.
 - 400Hz power source for Military, Avionics and Shipboard application.
- Compressor / Motor, any coils-made products:**
 - Such as vacuum cleaner, washing machine, air conditioning equipment, air conditioner, refrigerator, laser printer, CNC machine, etc.
 - To be used as worldwide voltage and frequency simulation in Product Research & Development, Manufacturing, QA/QC Test, Life Test, because of:
 - Pure Sinewave Output:** Operation won't be affected and caused irreparable damage.
 - Precise Working Frequency:** Rotation won't be effected.
 - Changeable Frequency:** Meet new tendency of Inverter type home electric appliances, like air conditioner, refrigerator, etc.
 - 2F or 4F Output Frequency for Layer Short test.**
 - Sustain Transient Starting Current Lash.** (not applicable in frequency converter without output isolation transformer.)
- Laboratory / Commodities Inspection Bureau / Testing Service Bureau:**
 - To provide arbitrate product inspection.
 - Standard AC Power Source.** Constant voltage constant frequency, low harmonic distortion, pure sinewave output.
 - EMC Test**
 - Voltage and Frequency Simulation Test**
- 400Hz Special Power Unit:**
 - Such as military system, avionics equipment, marine system, switching power supply of super computer, etc.
 - Market demands, because of:
 - Small size & light weight,
 - Better efficiency,
 - Low harmonic distortion, if compare to 50/60Hz unit.
 - For detailed specifications, please refer to our AMF series Ground Power Unit.

APF -

3
Input Phase
3

1
Output Phase
1

030
Capacity
30KVA

T
Input Voltage
220/380VAC

[Please refer to Form]

APF Series - Single Phase

MODEL		APF-500W	APF-1KW	APF-11003	APF-11005	APF-11010	APF-11015	APF-11020	APF-31006	APF-31010	APF-31015	APF-31020	APF-31030	APF-31045	APF-31050	APF-31060	
Capacity		500W	1KVA	3KVA	5KVA	10KVA	15KVA	20KVA	6KVA	10KVA	15KVA	20KVA	30KVA	45KVA	50KVA	60KVA	
Circuit Type		Transistor AMP		Single Phase					IGBT / Pulse Width Modulation Type								
Input (AC)	Phase	Single Phase							Three Phase								
	Voltage	110V(B) or 220V(G) ±15%			220V(G) ±15% ❶				220V(G) ±15% or 220V/380V(T) ±15% ❶								
	Frequency								47 ~ 63Hz								
Output (AC)	Phase	Single Phase															
	Voltage	Low	0 ~ 150V							5V ~ 150V (L-N)							
	Frequency	high	0 ~ 300V							10V ~ 300V (L-N)							
Max Curr	Low	4.2A	8.4A	25A	42A	84A	126A	166.6A	50A	83.3A	125A	168A	250A	375A	416.6A	500A	
	high	2.1A	4.2A	12.5A	21A	42A	63A	83.3A	25A	41.7A	62.5A	84A	125A	188A	208.3A	250A	
Frequency Stability									≤ 0.01%								
Power Regulation									≤ 0.2%								
Load Regulation									≤ 0.2%								
Total Harmonic Distortion		≤ 0.3%			≤ 2% (0.1Hz/Step)												
Transient Response		Max: 50 μs							Max: 2 ms								
Display	Voltage						Measure Range:0~300V, Res:0.1V,Accuracy:1%										
	Current						Measure Range:0~100A, Res:0.001A <small>APF-500W-APF-11002 / 0.01A <small>APF-11003-APF-2000</small></small> ,Accuracy:1%										
	Efficiency						Measure Range:500~10KW, Res:0.1W <small>APF-500W-APF-11001 / 1W <small>APF-11003-APF-11002</small></small> / 0.01W <small>APF-11010-APF-2000</small> ,Accuracy:1%										
	Frequency						Measure Range:45~500Hz, Res:0.1Hz, Accuracy:0.1%										
	power factor						Measure Range:0~1, Res:0.01, Accuracy:2%										
	Time						Measure Range:1s~99h Res:1s										
	Voltage						Fixed Range: 0~300V, Res:0.1V,Accuracy: 1%										
Default Item	Frequency						Fixed Range: 45~500Hz, Res:0.1Hz, Accuracy: 0.01 %										
	Time						Fixed Range: 1s~99h, Res:1s										
	General Program Memory						10 sets, for voltage, frequency and general transit time										
	Advanced Program Memory						20 sets, for voltage, frequency and advanced transit time										
	Changeable Program Memory						10 sets, for voltage, frequency and changeable transit time										
	Revolving operating functions						Both Advance and Change have Revolving functions. Revolving time can be sets 1,000,000 times.										
	Control																
Control	RS-232						Standard										
	RS-485						Standard										
	IEEE488 (GPIB)						Option										
Protection		Output Over Load,Over Voltage,Over Current Protection ,Over Temperature,Short Circuit, etcProtection.															
Isolation Resistance		≥DC500V 20M Ω															
Withstand Voltage		1800Vac/5mA/1minute															
Cooling System		Fan Cooling															
Environment		Ambient Temperature:0℃ ~ 45℃ ;Relative Humidity:0 ~ 90%(Non-condensing) ;Altitude:1500 m															
Case Number		❶		❷		❸							❹		❺	❻	
Net Weight(kg)		44	89	73	89	150	171					280	333	418		571	

- ❶ As to the required voltage, please refer to form 1.
❷ One year warranty.
❸ Custom-made specifications are discussible.
❹ All specifications are subject to change without prior notice

APF Series Case Number & Size

[Unit : mm (Width×Depth×Height)]



APF Series - Three Phase

MODEL			APF-33006	APF-33010	APF-33015	APF-33020	APF-33030	APF-33045	APF-33060	APF-33075
Capacity			6KVA	10KVA	15KVA	20KVA	30KVA	45KVA	60KVA	75KVA
Circuit Type			IGBT / Pulse Width Modulation Type							
Input (AC)	Phase		Three Phase							
	Voltage		220V(G) ± 15% or 220V/380V(T) ± 15%							
	Frequency		47 ~ 63Hz							
Output (AC)	Phase		Three Phase							
	Voltage	Low	5V ~ 150V (L-N)							
		high	10V ~ 300V (L-N)							
	Frequency		45 ~ 500Hz (0.1Hz/Step)							
	Max Curr	Low	16.7A	27.8A	41.6A	55.6A	88.3A	125A	167A	208.4A
		high	8.3A	13.9A	20.8A	27.8A	41.7A	62.5A	83.3A	104.2A
Frequency Stability			≤ 0.01%							
Power Regulation			≤ 0.2%							
Load Regulation			≤ 0.2%							
Total Harmonic Distortion			≤ 2% (linear load)							
Transient Response			Max: 2 ms							
Display	Voltage		Measure Range:0~300V, Res:0.1V,Accuracy:1%							
	Current		Measure Range:0~100A, Res:0.001A <small>APF-33006-APF-33020 / 0.01A Effective show1 2bit <small>APF-33030-APF-33060</small></small> ,Accuracy:1%							
	Efficiency		Measure Range:500~10KW, Res:1W <small>APF-33006-APF-33020 / 0.01W <small>APF-33030-APF-33060</small></small> ,Accuracy:1%							
	Frequency		Measure Range:45~500Hz, Res:0.1Hz, Accuracy:0.1%							
	power factor		Measure Range:0~1, Res:0.01, Accuracy:2%							
	Time		Measure Range:1s~99h Res:1s							
	Voltage		Fixed Range: 0~300V, Res:0.1V, Accuracy: 1%							
Default Item	Frequency		Fixed Range: 45~500Hz, Res:0.1Hz, Accuracy: 0.01 %							
	Time		Fixed Range: 1s~99h, Res:1s							
	General Program Memory		10 sets, for voltage, frequency and general transit time							
	Advanced Program Memory		20 sets, for voltage, frequency and advanced transit time							
	Changeable Program Memory		10 sets, for voltage, frequency and changeable transit time							
	Revolving operating functions		Both Advance and Change have Revolving functions. Revolving time can be sets 1,000,000 times.							
	Control		standard							
RS-232		Standard								
RS-485		Option								
IEEE488 (GPIB)										
Protection			Output Over Load,Over Voltage,Over Current Protection ,Over Temperature,Short Circuit, etcProtection.							
Isolation Resistance			≥DC500V 20M Ω							
Withstand Voltage			1800Vac/5mA/1minute							
Cooling System			Fan Cooling							
Environment			Ambient Temperature:0℃ ~ 45℃ ;Relative Humidity:0 ~ 90%(Non-condensing) ;Altitude:1500 m							
Case Number			❸			❹		❺	❻	
Net Weight(kg)			150	175		345	385	528	635	

- ❶ As to the required voltage, please refer to form 1.
❷ One year warranty.
❸ Custom-made specifications are discussible.
❹ All specifications are subject to change without prior notice