

表一: AFC Input Voltage Range

A	100 V	1 @2W+G	O	110/190 V	3 @4W+G or 3 @3W+N+G (Y-connection)
B	110 V		P	115/200 V	
C	115 V		Q	120/208 V	
D	120 V		R	127/220 V	
E	200 V	T	220/380 V	1 @2W+G or 3 @3W+G	
F	208 V	U	230/400 V		
G	220 V	V	240/415 V		
H	230 V	W	254/440 V		
I	240 V	Δ-connection	X	100/200 V	1 @3W+G
J	380 V		Y	110/220 V	
K	400 V	Δ-connection	Z	115/230 V	
L	415 V				
M	440 V				
N	480 V				

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

### AFC Application Purpose

#### 1. 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

#### 2. 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.

#### 3. 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.)

#### 4. Laboratory / Commodities Inspection Bureau / Testing Service Bureau:

- To provide arbitrate product inspection.
  - Standard AC Power Source.** Constant voltage constant frequency, low harmonic distortion, pure sine wave output.
  - EMC Test**
  - Voltage and Frequency Simulation Test**

#### 5. 400Hz Special Power Unit:

- Such as military system, avionics equipment, marine system, switching power supply of super computer, etc.
- Market demands, because of a) Small size & light weight, b) Better efficiency, c) Low harmonic distortion, if compare to 50/60Hz unit.
- For detailed specifications, please refer to our AMF series Ground Power Unit.

## 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 (FQC) 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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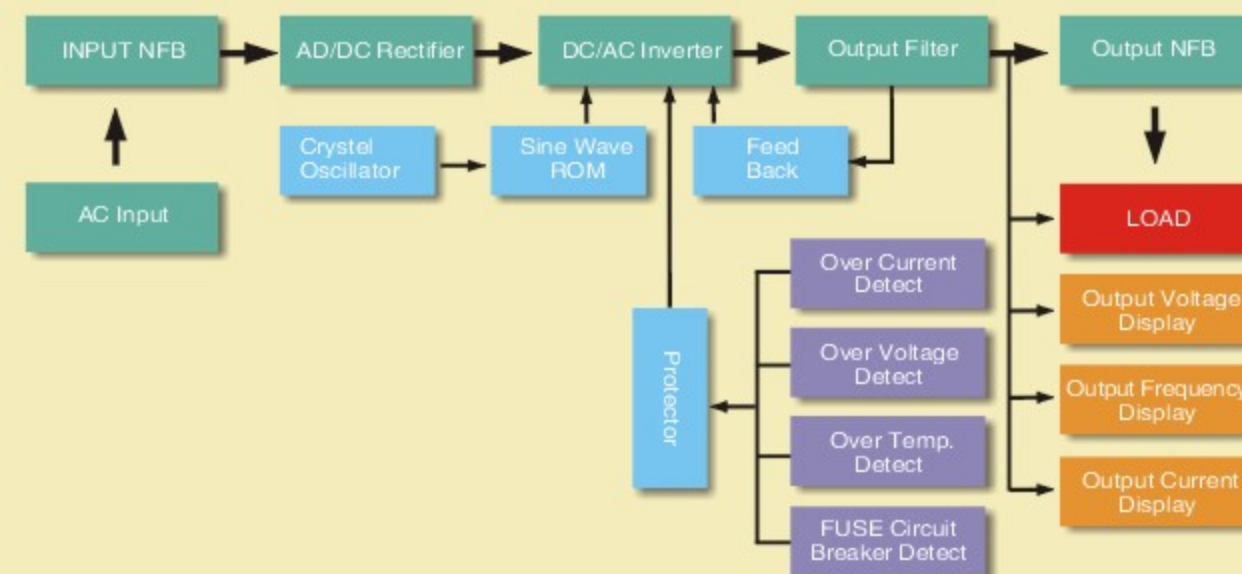
Headquarters: Taipei  
Branch Offices:  
Taipei, Taichung, Kaohsiung,  
Tianjin, Beijing, Qingdao, Shenyang,  
Suzhou, Kunshan, Shanghai, Nanjing,  
Guangzhou, Shenzhen, Xiamen, Dongguan, Fuzhou

NO: AFC060701



## AC Power Source Frequency Converter

AFC series  
500VA~400KVA



### AFC General Features

- ▲ **Wide Application:** Allow users to simulate Worldwide voltage and frequency for commercial applications (47~63Hz) and Military / Avionics / Marine applications at 400Hz.
- ▲ **Pure Sinewave Output:** All models generate very clean sine waveforms output. It is not only a superior power source for R&D and Laboratory, but also a standard power source for EMI/EMC/ Safety testing.
- ▲ **Superior Stability.** Output Load Voltage Regulation  $\leq \pm 1\%$ , Output Frequency  $\leq 0.01\%$ . (The Frequency is oscillated by Quartz Oscillator, its accuracy is extremely precise and stable.)
- ▲ **Quick & Convenient 3 Scales of Preset Voltage for High and Low Voltage Simulation:**
  - ▶ High (Surge):  $+10\% \sim +25\%$  of Preset voltage,
  - ▶ Medium: Preset voltage,
  - ▶ Low (Sag):  $-10\% \sim -30\%$  of Preset voltage.
- ▲ **Direct Select of Six Scales Output Frequency:** 47~63Hz, 50Hz, 60Hz, 2xF (F = Input Frequency), 4xF (F = Input Frequency), 400Hz.
- ▲ **2F or 4F Output Testing Frequency for Layer Short Test of Coils Products.**
- ▲ **High Overload Capability:** 100% full load continuously; withstand 3 times of inrush current.
- ▲ **Well Protection Device:** Input Circuit Breaker, Output Circuit Breaker, Instant Trip Circuits for Overload, Over Voltage, Short Circuit, Over Temperature protection and Alarm system.
- ▲ **Suitable for Any Load:** Resistive, Capacitive, Inductive and Non-linear load use.



ISO 9001 FM77639

The Power You Can Trust!

AFC -  
Frequency Converter

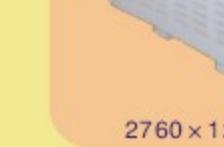
**3**  
Input Phase  
3

**1**  
Output Phase  
1

**030**  
Capacity  
30KVA

**T**  
Input Voltage  
220/380VAC

[ Please refer to Form I ]



**AFC Series - Single Phase**

MODEL	AFC-500W	AFC-1KW	AFC-11003	AFC-11005	AFC-11010	AFC-11015	
Capacity	500W	1KVA	3KVA	5KVA	10KVA	15KVA	
Circuit Type	Transistor AMP		IGBT / Pulse Width Modulation Type				
Phase	Single Phase						
Input (AC) Voltage	110V(B)OR220V(G) ±15% ①		220V(G) ±15% ①				
Frequency	50Hz ± 3Hz, 60Hz ± 3Hz						
Phase	Single Phase						
Voltage	Low	0 ~ 150V	5V ~ 150V (L-N)				
	high	0 ~ 300V	10V ~ 300V (L-N)				
Output (AC) Frequency	47 ~ 63Hz, 50Hz, 60Hz, 400Hz, 2F ( 2 x Input Frequnc ) 、 4F ( 4 x Input Frequnc ) 40 ~ 500Hz ( Option )						
Maximum	Low	4.2A	8.4A	25A	42A	84A	126A
Current	high	2.1A	4.2A	12.5A	21A	42A	63A
Frequency Stability	≤0.01%						
Load Regulation	±0.2%		±1% ( linear load )				
Total Harmonic Distortion	0.2%		2% ( linear load )				
Transient Response	Max 50 us		Max 2 ms				
Meter / Res	4 Digital Freq. Meter 4 Digital Voltmeter 4 Digital Ammeter Res. 0.1A 4 Digital Wattmeter		Res. 0.1Hz Res. 0.1V 3.5Digital Ammeter None				
Protection	Input Circuit Breaker, Output Circuit Breaker, Electronic Circuits Instant Trip for Over Voltage, Over Load, Over Temperature, Short Circuit Protection and Alarm System						
Isolation Resistance	≥DC500V/20M Ω						
Withstand Voltage	1800Vac/5mA/1minute						
Cooling System	Fan Cooling						
Ambient Temperature	0°C ~ 45°C						
Environment Relative Humidity	0 ~ 90% ( Non-condensing )						
Altitude	1500 m						
Case Number	①	②	③				
Net Weight(kg)	44	89	73	89	150	171	

- ① As to the required voltage, please refer to form I.
- ② One year warranty.
- ③ Custom-made specifications are discussible.
- ④ All specifications are subject to change without prior notice

**AFC Series - Single Phase**

MODEL	AFC-31020	AFC-31030	AFC-31045	AFC-31060	AFC-31150	
Capacity	20KVA	30KVA	45KVA	60KVA	150KVA	
Circuit Type	IGBT / Pulse Width Modulation Type					
Phase	Three Phase					
Input (AC) Voltage	220V(G)/380V(T) ±15% ①					
Frequency	50Hz ± 3Hz, 60Hz ± 3Hz					
Phase	Single Phase					
Voltage	Low	5V ~ 132V (L-N)			5V ~ 150V (L-N)	
	high	10V ~ 264V (L-N)			10V ~ 300V (L-N)	
Output (AC) Frequency	47 ~ 63Hz, 50Hz, 60Hz, 400Hz, 2F ( 2x Input Frequnc ) 、 4F ( 4x Input Frequnc ) 40 ~ 500Hz ( Option )					
Maximum	Low	168A	250A	375A	500A	1250A
Current	high	84A	125A	188A	250A	650A
Frequency Stability	≤0.01%					
Load Regulation	±1% ( linear load )					
Total Harmonic Distortion	2% ( linear load )					
Transient Response	Max 2 ms					
Meter / Res	4 Digital Freq. Meter 4 Digital Voltmeter 4.5Digital Ammeter 4 Digital Wattmeter		Res.0.1Hz Res.0.1V 3.5Digital Ammeter None			
Protection	Input Circuit Breaker, Output Circuit Breaker, Electronic Circuits Instant Trip for Over Voltage, Over Load, Over Temperature, Short Circuit Protection and Alarm System					
Isolation Resistance	≥DC500V/20M Ω					
Withstand Voltage	1800Vac/5mA/1minute					
Cooling System	Fan Cooling					
Ambient Temperature	0°C ~ 45°C					
Environment Relative Humidity	0 ~ 90% ( Non-condensing )					
Altitude	1500 m					
Case Number	④	⑤	⑥			
Net Weight(kg)	280	333	418	57	1350	

- ① As to the required voltage, please refer to form I.
- ② One year warranty.
- ③ Custom-made specifications are discussible.
- ④ All specifications are subject to change without prior notice

**AFC Series - Three Phase**

MODEL	AFC-33006	AFC-33010	AFC-33020	AFC-33030	AFC-33045	AFC-33060	AFC-33075
Capacity	6KVA	10KVA	20KVA	30KVA	45KVA	60KVA	75KVA
Circuit Type	IGBT / Pulse Width Modulation Type						
Phase	Three Phase						
Input (AC) Voltage	220V(G)/380V(T) ±15% ①						
Frequency	50Hz ± 3Hz, 60Hz ± 3Hz						
Phase	Three Phase						
Voltage	Low	5V ~ 150V (L-N)				5V ~ 132V (L-N)	
	high	10V ~ 300V (L-N)				10V ~ 264V (L-N)	
Output (AC) Frequency	47 ~ 63Hz, 50Hz, 60Hz, 400Hz, 2F ( 2x Input Frequnc ) 、 4F ( 4x Input Frequnc ) 40 ~ 500Hz ( Option )						
Maximum	Low	16.7A	27.8A	55.6A	88.3A	125A	167A
Current	high	8.3A	13.9A	27.8A	41.7A	62.5A	83.3A
Frequency Stability	≤0.01%						
Load Regulation	±1% ( linear load )						
Total Harmonic Distortion	2% ( linear load )						
Transient Response	Max 2 ms						
Meter / Res	4 Digital Freq. Meter 4 Digital Voltmeter 4 Digital Wattmeter		Res.0.1Hz Res.0.1V 3.5Digital Ammeter None				
Protection	Input Circuit Breaker, Output Circuit Breaker, Electronic Circuits Instant Trip for Over Voltage, Over Load, Over Temperature, Short Circuit Protection and Alarm System						
Isolation Resistance	≥DC500V/20M Ω						
Withstand Voltage	1800Vac/5mA/1minute						
Cooling System	Fan Cooling						
Ambient Temperature	0°C ~ 45°C						
Environment Relative Humidity	0 ~ 90% ( Non-condensing )						
Altitude	1500 m						
Case Number	③	④	⑤				
Net Weight(kg)	150	175	345	385	628	635	700

- ① As to the required voltage, please refer to form I.
- ② One year warranty.
- ③ Custom-made specifications are discussible.
- ④ All specifications are subject to change without prior notice

**AFC Series - Three Phase**

MODEL	AFC-33100	AFC-33150	AFC-33180	AFC-33200	AFC-33300	AFC-33400	AFC-33600	
Capacity	100KVA	150KVA	180KVA	200KVA	300KVA	400KVA	600KVA	
Circuit Type	IGBT / Pulse Width Modulation Type							
Phase	Three Phase							
Input (AC) Voltage	220V(G)/380V(T) ±15% ①							
Frequency	50Hz ± 3Hz, 60Hz ± 3Hz							
Phase	Three Phase							
Voltage	Low	5V ~ 132V (L-N)					5V ~ 150V (L-N)	
	high	10V ~ 264V (L-N)					10V ~ 300V (L-N)	
Output (AC) Frequency	47 ~ 63Hz, 50Hz, 60Hz, 400Hz, 2F ( 2x Input Frequnc ) 、 4F ( 4x Input Frequnc ) 40 ~ 500Hz ( Option )							
Maximum	Low	278A	417A	500A	556A	834A	1112A	
Current	high	139A	208A	250A	278A	417A	556A	
Frequency Stability	≤0.01%							
Load Regulation	±1% ( linear load )							
Total Harmonic Distortion	2% ( linear load )							
Transient Response	Max 2 ms							
Meter / Res	4 Digital Freq. Meter 4 Digital Voltmeter 4 Digital Wattmeter		Res.0.1Hz Res.0.1V 4.5Digital Ammeter None					
Protection	Input Circuit Breaker, Output Circuit Breaker, Electronic Circuits Instant Trip for Over Voltage, Over Load, Over Temperature, Short Circuit Protection and Alarm System							
Isolation Resistance	≥DC500V/20M Ω							
Withstand Voltage	1800Vac/5mA/1minute							
Cooling System	Fan Cooling							
Ambient Temperature	0°C ~ 45°C							
Environment Relative Humidity	0 ~ 90% ( Non-condensing )							
Altitude	1500 m							
Case Number	⑤	⑥	⑦	⑧	⑨			
Net Weight(kg)	1000	1350	1620	2000	3000	4000	5500	

- ① As to the required voltage, please refer to form I.
- ② One year warranty.
- ③ Custom-made specifications are discussible.
- ④ All specifications are subject to change without prior notice