AFC

Series

RoHS

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Output Power 3kVA~2000kVA

Applications

- O Home Appliance
- O Laboratory/Certification Bureau
- O Industrial Power Supply
- O Electric Vehicles
- O IT / SMT Production Line
- O Renewable Energy
- O Medical Industry
- O Motor & Compressor
- O Shore Power & Shipbuilding

AFC Series

AC Power Source/ Frequency Converter

AFC series is a general AC power supply which can simulate standard or abnormal voltage and frequency status. It is suitable for the Certified Bureau, the production and R&D of various industries including home appliances, electrical electronics, medical equipment and lighting.

PWM high-frequency switching technology designed to provide pure sine wave output, with single-phase and three-phase output models. Unlike other power supplies in the market, AFC's maximum output power is up to 2000kVA in one unit instead of parallel. The output voltage range of 5-300V with three-section voltage switch; Output frequency is switchable: 47-63Hz continuously adjustable, 50Hz fixed output, 60Hz fixed output, and optional 45-500Hz(Type A) and 350-450Hz & 400Hz fixed(Type B)

- Single-phase output models has the capacity range of 3-120kVA, three-phase output models has the capacity range of 6-2000kVA.
- CE & RoHS certification, with excellent performance in the safety electromagnetic compatibility.
- High input power factor, high efficiency of up to 92% at full load.
- 4 groups of LED display which display the output voltage, current, frequency,etc. and user can switch the reading of the phase voltage and line voltage; test information is at a glance.
- Modularized inverter which is compact, smaller, high power density and easy to maintain
- Comprehensive protections which include overvoltage, overcurrent, overload, input under-voltage, overheat; the corresponding fault code will show and the buzzer will alarm, when protection is activated.
- Emergency stop button to enable stop the output quickly.

High Power Output



With output power ranging from 3 to 800kVA, the AFC series offers a complete line of AC power source and is suitable for production line testing or quality assurance. The unit is easy to operate and equipped with fast voltage switch, phase current measurement and emergency stop for high power unit to enhance safety protection.

Ideal Power Source for Various Industries





Equipment











Vehicle

Compressors

Appliances

Switches

Factory Production Line

The AFC series AC power source is highly reliable and easy to operate, and it has been widely applied in production line, quality assurance and design verification. The multiple levels of frequency and wide range of output voltage is ideal for applications requiring voltage and frequency conversations. The unit can also be applied as isolation between DUT and the grid to reduce the interference from each side. These features make the AFC series ideal for home appliance, EMC chamber, motor and electronic industries.









Application Example





For production line and laboratory of motor, compressor and appliance, the AFC series can simulate different countries' voltage and frequency to help the users to verify DUT's reliability under different input power. The AFC series can also sustain unbalanced load conditions, which means it can power up to three single phase DUT or one three phase DUT. It can also be used as a power supply with isolation feature for power conditioning purpose. The AFC series is a versatile unit that can be applied into many applications.

Patent Module Design & CE Certified

The AFC series uses AC Power Corp.'s patent power module to greatly enhance its reliability and performance for high power model. It is CE certified and fulfill EMC and LVD requirements to ensure low interference to the DUT and the environment.

Complete **Protections**

The AFC series' protection circuitry has fast response to detect error, alarm and shut down output if necessary. The protections include OVP, OCP, OPP, input OVP, OTP and short circuit. Each error has a corresponding error code to help diagnose the issues and shorten the repair time.

ORDERING INFORMATION:

Model Number	Description							
AFC-001	Type A: Output Frequency 45-500Hz							
AFC-002	Type B: Output Frequency 350~450Hz, 400Hz							
AFC-003	Type C : Output Frequency 50/60Hz							
AFC-004	0~5V Analog Control (Control only)							
AFC-005	4~20mA Analog Control (Control only)							
AFC-006	Overload Capability 200% 2 sec, 150% 5 sec, 125% 15 sec							

AFC Series Single-Phase Output (500VA - 30kVA)

		AFC-	AFC-	AFC-	AFC-	AFC-					
Model		11003	11005	11010	11015	11030					
INPUT											
Phase				1Ø / 2 Wire + G							
Voltage*1			220V:	±15% (option: 100Vac or 12	0Vac)						
Frequency				50Hz ± 3Hz or 60Hz ± 3Hz							
Max. Current*2		21A	35A	69A	105A	210A					
Power Factor		≥0.8 (Max	. Power)		≥0.9 (Max. Power)						
OUTPUT											
Power (VA)		3kVA	5kVA	10kVA	15kVA	30kVA					
Phase				1Ø / 2 Wire + G							
Vallerer Description	Low(V)			5V-150.0V (L-N)							
Voltage Ranges	High(V)			10V-300.0V (L-N)							
Voltage Resolutio	n			0.1V							
Voltage Accurac	у			0.2% F.S.+ 4 counts							
Frequency Range	•*³			andard: 47-63Hz, 50Hz, 60H							
Frequency Resolu				Option: 45~500Hz (Type A)							
Frequency Accur		0.1Hz ±0.1% F.S									
	Low(A)	25A	41.7A	83.3A	125A	250A					
Max. Current (RMS)	High(A)	12.5A	20.8A	41.7A	62.5A	125A					
Line Regulation		12.5/4	20.0A	≤ 1%	02.JA	120A					
Load Regulation		≤ 1% ≤ 1% (Resistive Load)									
	istortion(THD)	≤ 1% (Resistive Load)									
Total Harmonic Distortion(THD) Response Time		≤ 2% (Resistive Load) ≤ 2ms									
MEASUREMENT				<u> </u>							
Voltage Range				0V-600.0V							
		0.1V									
Voltage Resolution Voltage Accuracy		0.2% F.S.+ 4 counts									
Frequency Range	-	0~999.9Hz									
Frequency Resolu		0.1Hz									
Frequency Accur		±0.1% F.S									
Current Range(RA		0-700A									
Current Resolution	-	0.01A(< 100A) / 0.1A(≥ 100A)									
Current Accuracy	-	0.2% F.S.+ 4 counts									
Power Range	, ()	_		0-75kW							
Power Resolution		_		0.01kW(< 10kW) / 0.1kW(≥ 10kW)							
Power Accuracy		_		0.3% F.S.+4 counts							
GENERAL											
		≥ 80% at M	ax. Power		≥ 90% at Max. Power						
Elliciency	HMI		Digital LED Display								
Efficiency HMI			Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature								
HMI	erature										
HMI Protection	erature		Output : Over	Voltage, Over Current, Ove							
HMI Protection Opertional Tempe	erature		Output : Over	Voltage, Over Current, Ove							
HMI Protection Opertional Tempor Humidity Altitude		720 x 430	Output : Over	Voltage, Over Current, Ove 0°C ~45°C 0~90% (Non condensing)) x850 mm					
HMI Protection Opertional Temper Humidity		720 x 430 28.4 x 16.9	Output : Over	Voltage, Over Current, Ove 0°C ~45°C 0~90% (Non condensing) < 1,500m	r Temperature						
HMI Protection Opertional Tempe Humidity Altitude			Output : Over	Voltage, Over Current, Ove 0°C ~45°C 0~90% (Non condensing) < 1,500m 1045 x 600 x 850 mm	r Temperature						

 $^{^*}$ 1 Please contact us for other input voltage specifications. * 2 The max. current is based on rated input voltage of 220V.

^{*3} For type A: 45~500Hz, please contact us for output power characteristic curve.

^{*4} Dimensions and weight are for input voltage 220V. Please contact us for dimensions and weight for other input voltage.

^{*} All specifications are subject to change without notice. The specifications are tested at ambient temperature of $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$.

AFC Series Single-Phase Output (10kVA - 150kVA)

Model		AFC- 31010	AFC- 31015	AFC- 31030	AFC- 31045	AFC- 31060	AFC- 31080	AFC- 31100	AFC- 31120			
INPUT												
Phase					3Ø/4	Nire + G						
Voltage*1			220	//380Vac ±15% (option: 120/208	/ac, 277/480Va	c, 200Vac or 400	Vac)				
Frequency		50Hz ± 3Hz										
Max. Current*2		23A	32A	65A	97A	129A	198	247A	296A			
Power Factor			≥ (≥ 0.85 (Max. Power)								
OUTPUT												
Power (VA)		10kVA	15kVA	30kVA	45kVA	60kVA	80kVA	100kVA	120kV			
Phase		1Ø / 2 Wire + G										
	Low(V)				5V-150.0)V (L-N)						
Voltage Ranges	High(V)	10V-300.0V (L-N)										
Voltage Resolution						1V						
Voltage Accurac					0.2% F.S	+4 counts						
Frequency Rang					Standard: 47-63 Option: 45~5	3Hz, 50Hz, 60H 00Hz (Type A)	Z					
Frequency Resol	lution				•	lHz						
Frequency Accu						% F.S						
Max. Current	Low(A)	83.3A	125A	250A	375A	500A	666.7A	833.3A	1000A			
(RMS)	High(A)	41.7A	62.5A	125A	187.5A	250A	333.3A	416.7A	500A			
Line Regulation	9.1(八)		02.0/1	120/1		1%	000.071	110.77	000A			
Load Regulation												
Total HarmonicD		≤ 1% (Resistive Load) ≤ 2% (Resistive Load)										
Response Time	nsionion(mb)	≦ 2 ms										
MEASUREMENT						LIIIO						
					01/ 6	00.0\/						
Voltage Range		0V-600.0V 0.1V										
Voltage Resolution Voltage Accuracy		0.1V 0.2% F.S.+4 counts										
Frequency Rang		0.2% F.S.74 COUNTS 0-999.9Hz										
Frequency Resol		0-999.9Hz										
Frequency Accu		±0.1% F.S.										
Current Range(R		0-999A										
Current Resolution		0-9999A 0.01A(< 100A) / 0.1A(≧ 100A)										
Current Accurac						+4 counts	'					
Power Range	, (NITIO)			0-75kW	0.2/01.3	- + oounto						
Power Resolution	1		0.01kW(<									
Power Accuracy				_								
GENERAL				.3% F.S.+4 cour								
Efficiency		≥ 90% at Max. Power ≥ 85% at Max. Power										
HMI		≥ 90% at Max. Power ≥ 85% at Max. Power Digital LED Display										
Protection⁴		Input : N.F.B, Over Voltage, Under Voltage,										
On artises - LT-		Output : Over Voltage, Over Current, Over Temperature										
Opertional Temperature		0°C~45°C										
Humidity Altitude		0~90% (Non condensing) < 1,500m										
Annuae		4045 000			< 1,	DOUTH	4000 4050					
Dimensions (H x	W x D) *4	850 mm						1800 x 1050 x 970 mm 1900 x 1150 x 1240 mn				
		41.1 x 23.6 x 33.5 inch		x 33.5 inch		x 33.9 inch	70.9 x 41.3 x 38.2 inch		x 48.8 inch			
Weight *4		230kg	280kg	450kg	580kg	670kg	830kg	940kg	1100kg			
weight		507.2lbs	617.4lbs	992.3lbs	1278.9lbs	1477.4lbs	1830.2lbs	2072.7lbs	2425.5lb			

 $^{^*}$ 1 Please contact us for other input voltage specifications. * 2 The max, current is based on rated input voltage of 220V.

^{*3} For type A: $45\sim500$ Hz, please contact us for output power characteristic curve.

^{*4} Dimensions and weight are for input voltage 220V. Please contact us for dimensions and weight for other input voltage.

^{*} All specifications are subject to change without notice. The specifications are tested at ambient temperature of $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$.

AFC Series Three-Phase Output (5kVA - 120kVA)

Model		AFC- 33005	AFC- 33010	AFC- 33015	AFC- 33030	AFC- 33045	AFC- 33060	AFC- 33080	AFC- 33100	AFC- 33120		
INPUT												
Phase					3Ø / 4 Wire +	G (option: 3Ø	/ 3 Wire + G)					
Voltage*1			220/	380Vac ±15%	(option: 120/2	08Vac, 277/480	OVac, 240Vac ,	200Vac or 400)Vac)			
Frequency		50Hz ± 3Hz or 60Hz ± 3Hz										
Max. Current*2		11A	23A	32A	65A	97A	129A	198A	247A	296A		
Power Factor				≥0.9 (Ma:	x. Power)			≥0.8	B5 (Max. Pow	er)		
OUTPUT												
Power (VA)		5kVA	10kVA	15kVA	30kVA	45kVA	60kVA	80kVA	100kVA	120kVA		
Phase						3Ø / 4 Wire + 0	3		ļ			
Voltage	Low(V)				5	V-150.0V (L-N	I)					
Ranges	High(V)	10V-300.0V (L-N)										
Voltage Resolution						0.1V						
Voltage Accurac					0.	2% F.S.+4 cou	nts					
Frequency Range	-				Standar	d: 47-63Hz, 50	Hz, 60Hz					
Frequency Resol	ution				Option	n: 45~500Hz (T 0.1Hz	ype A)					
Frequency Accu	racy					±0.1% F.S.						
Max. Current	Low(A)	13.9A	27.8A	41.7A	83.3A	125A	166.7A	222.2A	277.8A	333.3A		
(RMS)	High(A)	6.9A	13.9A	20.8A	41.7A	62.5A	83.3A	111.1A	138.9A	166.7A		
Line Regulation			0.9A 13.9A 20.0A 41.7A 02.3A 03.3A 111.1A 130.9A 100.7A ≤ 1%									
Load Regulation					≦ 1¹	% (Resistive L	oad)					
Total Harmonic D	istortion(THD)	= 1% (Nesistive Load) ≤ 2% (Resistive Load)										
Response Time		≦ 2ms										
MEASUREMENT												
Voltage Range						0V-600.0V						
Voltage Resolution		0.1V										
Voltage Accuracy		0.2% F.S.+4 counts										
Frequency Range	-	0~999.9Hz										
Frequency Resol	ution	0.1Hz										
Frequency Accu	racy	±0.1% F.S.										
Current Range(R		0-9999A										
Current Resolutio	n(RMS)	$0.01A(<100A) / 0.1A(\ge 100A)$										
Current Accurac		0.2% F.S.+4 counts										
Power Range	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0-75kW -										
Power Resolution		$0.01 \text{kW} (< 10 \text{kW}) / 0.1 \text{kW} (\ge 10 \text{kW})$										
Power Accuracy		0.3% F.S.+4 counts -										
GENERAL												
Efficiency		≥ 90% at Max. Power ≥ 85% at Max. Power										
HMI		Digital LED Display										
Protection *4		Input : N.F.B, Over Voltage, Under Voltage,										
Opertional Temp	Output : Over Voltage, Over Current, Over Temperature **Description** O"C~45°C											
Humidity		0~90% (Non condensing)										
Altitude		< 1,500m										
		1045 x 600 x 850 mm	1045 x 600 x 1440 x 600 x 850 mm 1645 x 800 x 860 mm						1800 x 1050 x 970 mm			
Dimensions (H x	W x D) *4	41.1 x 23.6 x 33.5 inch	56.7	′ x 23.6 x 33.5	inch	64.8 x 31.5	x 33.9 inch	70.9 x 41.3	x 38.2 inch	74.8 x 45.3 x 48.8 inch		
		200kg	280kg	305kg	400kg	560kg	670kg	1000kg	1120kg	1240kg		
Weight *4				672.53lbs	<u> </u>				-	+		

^{*1 200}V and 400V input options are 3Ø / 3 Wire + G. Please contact us for other input voltage specifications. *2 The max. current is based on rated input voltage of 380V.

^{*3} For type A: 45-500Hz, please contact us for output power characteristic curve. *4 Dimensions and weight are for input voltage 220/380V[30/4W+G]. Please contact us for dimensions and weight for other input voltage. *All specifications are subject to change without notice. The specifications are tested at ambient temperature of 25°C.

SPECIFICATIONS

AFC Series Three-Phase Output (160kVA - 800kVA)

Model		AFC- 33160	AFC- 33200	AFC- 33240	AFC- 33300	AFC- 33400	AFC- 33500	AFC- 33640			
INPUT											
Phase				3Ø / 4 Wir	e + G (option: 3Ø /	3 Wire + G)					
Voltage*1			220/380Vac	±15% (option: 120	/208Vac, 277/480\	/ac, 240Vac ,200V	ac or 400Vac)				
Frequency				50H	lz ± 3Hz or 60Hz ±	3Hz					
Max. Current*2		395	493A	593A	769A	1025A	1282A	1579A			
Power Factor				:	≥0.85 (Max. Power	r)					
OUTPUT											
Power (VA)		160kVA	200kVA	240kVA	300kVA	400kVA	500kVA	640kVA			
Phase		3Ø / 4 Wire + G									
Voltage Banase	Low(V)				5V-150.0V(L-N)						
Voltage Ranges	High(V)				10V-300.0V (L-N))					
Voltage Resolutio	n				0.1V						
Voltage Accurac	у				0.2% F.S.+ 4count	s					
Frequency Range	*3				ard: 47-63Hz, 50H; ion: 45~500Hz (Ty						
Frequency Resolu	rtion				0.1Hz						
Frequency Accur					±0.1% F.S.						
Max. Current	Low(A)	333.3A	555.6A	666.7A	833.3A	1111.1A	1388.9A	1777.8A			
(RMS)	High(A)	166.7A	277.8A	333.3A	416.7A	555.6A	694.4A	888.9A			
Line Regulation	<u> </u>		I		≦ 1%	I	1				
Load Regulation		≦ 1% (Resistive Load)									
Total Harmonic Di	istortion(THD)	≤ 2% (Resistive Load)									
Response Time		≤ 2ms									
MEASUREMENT					<u>=</u> 2.1110						
Voltage Range					0V-600.0V						
Voltage Resolutio	n	0.1V									
Voltage Accurac		0.1V 0.2% F.S.+4 counts									
Frequency Range	-	0.2 % 1.3.14 counts 0~999.9Hz									
Frequency Resolu		0~999.9Hz 0.1Hz									
Frequency Accur		±0.1% F.S.									
Current Range(RA		0.9999A									
Current Resolution	-	0.01A(< 100A) / 0.1A(≥ 100A)									
Current Accuracy											
	/(K/VI3)	0.2% F.S.+4 counts									
Power Range Power Resolution					<u> </u>						
					<u> </u>						
Power Accuracy					-						
GENERAL					05% -t May Day						
Efficiency					: 85% at Max. Pow						
HMI					Digital LED Display						
Protection		Input: N.F.B, Over Voltage, Under Voltage, Output: Over Voltage, Over Current, Over Temperature									
Opertional Tempe	erature	0°C~45°C									
Humidity		0~90% (Non condensing)									
Altitude					< 1,500m						
Dimensions (H x V	V × D) *4	19	00 x 1150 x 1240	mm	20	2050 x 4716 1520 mm					
Dimensions (H X V	V X U)	74	4.8 x 45.3 x 48.8 ir	nch	80	80.7 x 185.7 59.8 inch					
Mainhi *4		1850kg	2300kg	2800kg	3450kg	4450kg	5550kg	7800kg			
Weight *4		4079.3lbs	5071.5lbs	6174lbs	7607.25lbs	9812.25lbs	12237.8lbs	17199lbs			

^{*1 200}V and 400V input options are 3Ø / 3 Wire + G. Please contact us for other input voltage specifications. *2 The max. current is based on rated input voltage of 380V.

^{*3} For type A: 45~500Hz, please contact us for output power characteristic curve.

^{*4} Dimensions and weight are for input voltage 220/380V(3Ø/4W+G). Please contact us for dimensions and weight for other input voltage.

* All specifications are subject to change without notice. The specifications are tested at ambient temperature of 25°C ± 5°C.