

AFC Series

RoHS
Compliant



Output Power
3kVA~2000kVA

Applications

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



Electric Vehicle



Motors/Compressors



Medical Equipment



Laboratory



Home Appliances



Switches

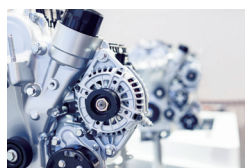


Smart Grid

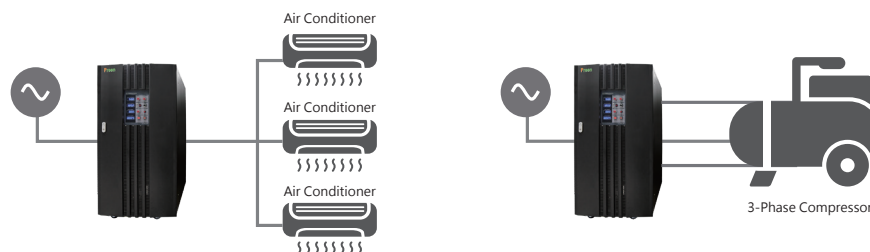


Factory Production Line

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 conversions. 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

SPECIFICATIONS

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

Model		AFC-11003	AFC-11005	AFC-11010	AFC-11015	AFC-11030
INPUT						
Phase		1Ø / 2 Wire + G				
Voltage ^{*1}		220V±15% (option: 100Vac or 120Vac)				
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				
Voltage Ranges	Low(V)	5V-150.0V (L-N)				
	High(V)	10V-300.0V (L-N)				
Voltage Resolution		0.1V				
Voltage Accuracy		0.2% F.S.+ 4 counts				
Frequency Range ^{*3}		Standard: 47-63Hz, 50Hz, 60Hz Option: 45~500Hz (Type A)				
Frequency Resolution		0.1Hz				
Frequency Accuracy		±0.1% F.S				
Max. Current (RMS)	Low(A)	25A	41.7A	83.3A	125A	250A
	High(A)	12.5A	20.8A	41.7A	62.5A	125A
Line Regulation		≤ 1%				
Load Regulation		≤ 1% (Resistive Load)				
Total Harmonic Distortion(THD)		≤ 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 Resolution		0.1Hz				
Frequency Accuracy		±0.1% F.S				
Current Range(RMS)		0-700A				
Current Resolution(RMS)		0.01A(< 100A) / 0.1A(≥ 100A)				
Current Accuracy(RMS)		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						
Efficiency		≥ 80% at Max. Power		≥ 90% at Max. Power		
HMI		Digital LED Display				
Protection		Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature				
Operational Temperature		0°C ~45°C				
Humidity		0~90% (Non condensing)				
Altitude		< 1,500m				
Dimensions (H x W x D) ^{*4}		720 x 430 x 520 mm		1045 x 600 x 850 mm	1440 x 600 x850 mm	
		28.4 x 16.9 x 20.5 inch		41.1 x 23.6 x 33.5 inch	56.7 x 23.6 x 33.5 inch	
Weight ^{*4}		73kg	89kg	210kg	240kg	330kg
		161lbs	196.2lbs	463.1lbs	529.2lbs	727.7lbs

^{*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°C ± 5°C.

SPECIFICATIONS

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	3 Ø / 4 Wire + G							
Voltage ^{*1}	220/380Vac ±15% (option: 120/208Vac, 277/480Vac, 200Vac or 400Vac)							
Frequency	50Hz ± 3Hz or 60Hz ± 3Hz							
Max. Current ^{*2}	23A	32A	65A	97A	129A	198	247A	296A
Power Factor	≥ 0.9 (Max. Power)					≥ 0.85 (Max. Power)		
OUTPUT								
Power (VA)	10kVA	15kVA	30kVA	45kVA	60kVA	80kVA	100kVA	120kVA
Phase	1Ø / 2 Wire + G							
Voltage Ranges	Low(V)	5V-150.0V (L-N)						
	High(V)	10V-300.0V (L-N)						
Voltage Resolution	0.1V							
Voltage Accuracy	0.2% F.S.+4 counts							
Frequency Range ^{*3}	Standard: 47-63Hz, 50Hz, 60Hz Option: 45~500Hz (Type A)							
Frequency Resolution	0.1Hz							
Frequency Accuracy	±0.1% F.S							
Max. Current (RMS)	Low(A)	83.3A	125A	250A	375A	500A	666.7A	833.3A
	High(A)	41.7A	62.5A	125A	187.5A	250A	333.3A	416.7A
Line Regulation	≤ 1%							
Load Regulation	≤ 1% (Resistive Load)							
Total HarmonicDistortion(THD)	≤ 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 Resolution	0.1Hz							
Frequency Accuracy	±0.1% F.S.							
Current Range(RMS)	0-9999A							
Current Resolution(RMS)	0.01A(< 100A) / 0.1A(≥ 100A)							
Current Accuracy(RMS)	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								
Efficiency	≥ 90% at Max. Power					≥ 85% at Max. Power		
HMI	Digital LED Display							
Protection ^{*4}	Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature							
Opertional Temperature	0°C~45°C							
Humidity	0~90% (Non condensing)							
Altitude	< 1,500m							
Dimensions (H x W x D) ^{*4}	1045 x 600 x 850 mm	1440 x 600 x 850 mm		1645 x 800 x 860 mm		1800 x 1050 x 970 mm	1900 x 1150 x 1240 mm	
	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	
Weight ^{*4}	230kg	280kg	450kg	580kg	670kg	830kg	940kg	1100kg
	507.2lbs	617.4lbs	992.3lbs	1278.9lbs	1477.4lbs	1830.2lbs	2072.7lbs	2425.5lbs

*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°C ± 5°C.

SPECIFICATIONS

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: 120/208Vac, 277/480Vac, 240Vac ,200Vac or 400Vac)								
Frequency		50Hz ± 3Hz or 60Hz ± 3Hz								
Max. Current ^{*2}		11A	23A	32A	65A	97A	129A	198A	247A	296A
Power Factor		≥0.9 (Max. Power)						≥0.85 (Max. Power)		
OUTPUT										
Power (VA)		5kVA	10kVA	15kVA	30kVA	45kVA	60kVA	80kVA	100kVA	120kVA
Phase		3Ø / 4 Wire + G								
Voltage Ranges	Low(V)	5V-150.0V (L-N)								
	High(V)	10V-300.0V (L-N)								
Voltage Resolution		0.1V								
Voltage Accuracy		0.2% F.S.+4 counts								
Frequency Range ^{*3}		Standard: 47-63Hz, 50Hz, 60Hz Option: 45~500Hz (Type A)								
Frequency Resolution		0.1Hz								
Frequency Accuracy		±0.1% F.S.								
Max. Current (RMS)	Low(A)	13.9A	27.8A	41.7A	83.3A	125A	166.7A	222.2A	277.8A	333.3A
	High(A)	6.9A	13.9A	20.8A	41.7A	62.5A	83.3A	111.1A	138.9A	166.7A
Line Regulation		≤ 1%								
Load Regulation		≤ 1% (Resistive Load)								
Total Harmonic Distortion(THD)		≤ 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 Resolution		0.1Hz								
Frequency Accuracy		±0.1% F.S.								
Current Range(RMS)		0-9999A								
Current Resolution(RMS)		0.01A(< 100A) / 0.1A(≥ 100A)								
Current Accuracy(RMS)		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										
Efficiency		≥ 90% at Max. Power						≥ 85% at Max. Power		
HMI		Digital LED Display								
Protection ^{*4}		Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature								
Opertional Temperature		0°C~45°C								
Humidity		0~90% (Non condensing)								
Altitude		< 1,500m								
Dimensions (H x W x D) ^{*4}		1045 x 600 x 850 mm	1440 x 600 x 850 mm			1645 x 800 x 860 mm		1800 x 1050 x 970 mm		1900 x 1150 x 1240 mm
		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
Weight ^{*4}		200kg	280kg	305kg	400kg	560kg	670kg	1000kg	1120kg	1240kg
		441lbs	617.4lbs	672.53lbs	882lbs	1234.8lbs	1477.35lbs	2205lbs	2469.6lbs	2734.2lbs

*1 200V 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.

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 Wire + G (option: 3Ø / 3 Wire + G)						
Voltage ^{*1}		220/380Vac ±15% (option: 120/208Vac, 277/480Vac, 240Vac ,200Vac or 400Vac)						
Frequency		50Hz ± 3Hz or 60Hz ± 3Hz						
Max. Current ^{*2}		395	493A	593A	769A	1025A	1282A	1579A
Power Factor		≥0.85 (Max. Power)						
OUTPUT								
Power (VA)		160kVA	200kVA	240kVA	300kVA	400kVA	500kVA	640kVA
Phase		3Ø / 4 Wire + G						
Voltage Ranges	Low(V)	5V-150.0V(L-N)						
	High(V)	10V-300.0V (L-N)						
Voltage Resolution		0.1V						
Voltage Accuracy		0.2% F.S.+ 4counts						
Frequency Range ^{*3}		Standard: 47-63Hz, 50Hz, 60Hz Option: 45~500Hz (Type A)						
Frequency Resolution		0.1Hz						
Frequency Accuracy		±0.1% F.S.						
Max. Current (RMS)	Low(A)	333.3A	555.6A	666.7A	833.3A	1111.1A	1388.9A	1777.8A
	High(A)	166.7A	277.8A	333.3A	416.7A	555.6A	694.4A	888.9A
Line Regulation		≤ 1%						
Load Regulation		≤ 1% (Resistive Load)						
Total Harmonic Distortion(THD)		≤ 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 Resolution		0.1Hz						
Frequency Accuracy		±0.1% F.S.						
Current Range(RMS)		0-9999A						
Current Resolution(RMS)		0.01A(< 100A) / 0.1A(≥ 100A)						
Current Accuracy(RMS)		0.2% F.S.+4 counts						
Power Range		-						
Power Resolution		-						
Power Accuracy		-						
GENERAL								
Efficiency		≥ 85% at Max. Power						
HMI		Digital LED Display						
Protection		Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature						
Opertional Temperature		0°C~45°C						
Humidity		0~90% (Non condensing)						
Altitude		< 1,500m						
Dimensions (H x W x D) ^{*4}		1900 x 1150 x 1240 mm			2050 x 3880x 1539 mm			2050 x 4716 x 1520 mm
		74.8 x 45.3 x 48.8 inch			80.7 x 152.8 x 60.6 inch			80.7 x 185.7 x 59.8 inch
Weight ^{*4}		1850kg	2300kg	2800kg	3450kg	4450kg	5550kg	7800kg
		4079.3lbs	5071.5lbs	6174lbs	7607.25lbs	9812.25lbs	12237.8lbs	17199lbs

^{*1} 200V 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.