

AFV Series

# High Power Programmable AC Power Source

10kVA~2000kVA

CE RoHS  
Compliant



- CE & RoHS certified.
- Modularized inverter which is compact, smaller, high power density and easy to maintain.
- 7-inch touch screen which can display the phase voltage, current, frequency, active/apparent power, power factor and test information.
- Ability to simulate abnormal power status: STEP and GRADUAL change modes allow users to set sequences of start/end voltage, frequency and running time with ease.
- Comprehensive protections which include output undervoltage / overvoltage, overcurrent, overload, input undervoltage / overvoltage, overheat and other more than twenty fault conditions.
- Three-phase voltage independently adjustable function: each phase voltage can be adjusted independently; therefore AFV can power more than one single-phase loads.
- Phase angle adjustment function: can adjust the phase angle between each phase (for three phase system).

## Interfaces

RS-232

RS-485

GPIB

Ethernet

● Standard

● Option

## Applications

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

## AFV Series

Preen's AFV series is a programmable AC power source that can be remotely controlled and integrated with other systems for automatic testing. AFV series provides precise output voltage and frequency which could reach various types of industrial requirements. For the industrial users, such as home appliances, electrical and electronic, medical equipment and lighting, they are able to quickly and accurately simulate standard or abnormal power status via programmable function.

AFV builds-in standard programmable features, such as STEP and GRADUAL features, which are ideal for laboratories, certification and R&D institution's compliance test.

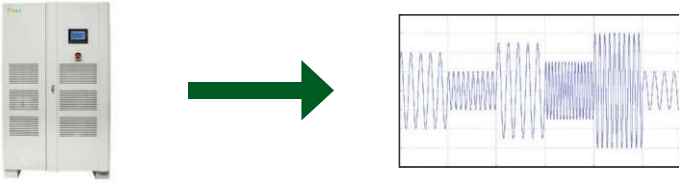
The user friendly touch screen supports user to operate AFV series intuitive and easily, and the user can remote control the unit via the standard RS-485 or RS232 (Optional for Ethernet, GPIB) interface. The AC source is coupled with output voltage range of 0~300V and output frequency of standard 45~65Hz or optional 45~500Hz. Moreover, the AFV series provides complete product protection, such as OVP, UVP, OCP, OPP, OTP and short circuit protection.

User-friendly Touch Screen and Remote Control



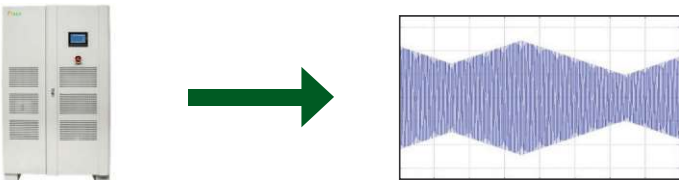
AFV with 7-inch touch screen of intuitive operation, easy to operate, quick setting, easy to use. Through the remote control interface (RS-485 / RS-232 / GPIB / Ethernet), users can set the desired output parameters and monitor the output value.

STEP Mode



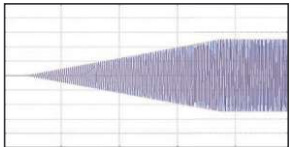
AFV series has the STEP change mode which provides up to 24 sequences and up to 255 cycles. The output voltage, frequency, and running time in each sequence can be set on the touch screen. These functions are widely used in the performance test of electric motor or home appliance load.

GRADUAL Mode

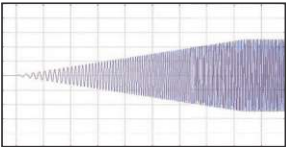


AFV series has the GRADUAL change mode which provides up to 12 sequences and up to 255 cycles. Through this feature, users are allowed to set the product output, such as start/end output voltage, start/end output frequency and dwell time of performing the GRADUAL feature in each of the adjustable sets, and then the product output will change according to the setting slew rate.

Soft Start Features ( Opt. )



Variable Voltage Constant Frequency (VVCF)



Variable Voltage Variable Frequency (VVVF)

Soft-start function can effectively reduce the starting current of motor load or inductive load. The users have more flexibility on selection of power capacity and more efficiency on space usage. They can purchase more cost-effective products.

Three Phase Independent Control (Opt.)

Users are allowed to control three-phase output voltage independently. The product can be used as one unit of three-phase power supply or as three units of single-phase power supply.

Wide Variety of Applications



With its high reliability, capability of complex power line simulation and high output power, the AFV series has been widely applied for applications on home appliance, electric vehicle charger, motor, electronics and medical equipment. It is a AC power source suitable from R&D verification to mass production testing.

## SPECIFICATIONS

### AFV Series Single-Phase Output (10kVA - 150kVA)

Model	AFV - 31010	AFV - 31015	AFV - 31020	AFV - 31030	AFV - 31045	AFV - 31060	AFV - 31075	AFV - 31100	AFV - 31150	
<b>INPUT</b>										
Phase	3Ø / 4 Wire + G									
Voltage <sup>1</sup>	220V/380V ± 15%									
Frequency	50Hz ± 3Hz or 60Hz ± 3Hz									
Max. Current <sup>2</sup>	18.7A	28.1A	37.4A	56.1A	84.2A	112.2A	140.3A	209.7A	314.6A	
Power Factor	≥0.9 ( Max. Power )							≥0.85 ( Max. Power )		
<b>OUTPUT</b>										
Power	10kVA	15kVA	20kVA	30kVA	45kVA	60kVA	75kVA	100kVA	150kVA	
Phase	1Ø / 2 Wire + G									
Voltage Ranges	0V-150.0V ( L-N )									
	0V-300.0V ( L-N )									
Voltage Resolution	0.1V									
Voltage Accuracy	0.5% F.S.+4 counts									
Frequency Range	Standard : 45-65Hz Option : 45-500Hz									
Frequency Resolution	0.1Hz									
Frequency Accuracy	0.5% F.S.+4 counts									
Max. Current (RMS)	83.3A	125A	166.7A	250A	375A	500A	625A	833.3A	1250A	
	41.7A	62.5A	83.3A	125A	187.5A	250A	312.5A	416.7A	625A	
Line Regulation	< 1%									
Load Regulation	± 1% ( Resistive Load )									
Total Harmonic Distortion(THD) <sup>3</sup>	≤ 2% ( Resistive Load )									
Response Time	≤ 2ms									
<b>MEASUREMENT</b>										
Voltage Range	0V-300.0V									
Voltage Resolution	0.1V									
Voltage Accuracy	0.5% F.S.+4 counts									
Frequency Range	45.0-500.0Hz									
Frequency Resolution	0.1Hz									
Frequency Accuracy	0.5% F.S.+4 counts									
Current Range (RMS)	0 - 83.3A	0 - 125A	0 - 166.7A	0 - 250A	0 - 375A	0 - 500A	0 - 625A	0 - 833.3A	1 - 1250A	
Current Resolution (RMS)	0.1A									
Current Accuracy (RMS)	0.5% F.S.+4 counts									
Power Range	0 - 10kW	0 - 15kW	0 - 20kW	0 - 30kW	0 - 45kW	0 - 60kW	0 - 75kW	0 - 100kW	1 - 150kW	
Power Resolution	0.1kW									
Power Accuracy	1% F.S.+6 counts									
<b>GENERAL</b>										
Efficiency	≥0.9 at Max. Power							≥0.85 at Max. Power		
HMI	Touch Screen , 7" Color TFT LCD									
Program Mode	STEP : 24 sets / 255 cycles. (Volt./Freq./Time) GRADUAL : 12 sets / 255 cycles. (Volt./Freq./Time)									
Protection	Input : Input N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Reverse Current, Over Temperature and machine will display the error code and give a warning sound.									
Remote Interface	Standard : RS-485 / RS-422 / RS-232 Option : GPIB, Ethernet									
Operational Temperature	0°C -45°C									
Humidity	0-90% ( Non condensing )									
Altitude	< 1,500m									
Dimensions (H x W x D)	945 x 600 x 850mm		1340 x 600 x 850mm		1545 x 800 x 860mm		1800 x 1050 x 970mm	1900 x 1150 x 1240mm		
	37.2 x 23.6 x 33.5inch		52.8 x 23.6 x 33.5inch		60.82 x 31.5 x 33.9inch		70.9 x 41.3 x 38.2inch	74.8 x 45.3 x 48.8inch		
Weight	230kg	280kg	320kg	450kg	580kg	670kg	710kg	940kg	1350kg	
	507.2lbs	617.4lbs	705.6lbs	992.3lbs	1278.9lbs	1477.4lbs	1565.6lbs	2072.7lbs	2976.8lbs	

\*1 Please contact for other voltage specification.

\*2 The rated input voltage is 220V/380V.

\*3 Low : 90 - 140V or High 180 - 280V.

\* all specifications are subject to change without notice.

SPECIFICATIONS

AFV Series three-Phase Output (10kVA - 100kVA)

Model	AFV-33010	AFV-33015	AFV-33020	AFV-33030	AFV-33045	AFV-33060	AFV-33075	AFV-33100	
<b>INPUT</b>									
Phase	3Ø / 4 Wire + G								
Voltage <sup>1</sup>	220V/380V±15%								
Frequency	50Hz±3Hz or 60Hz±3Hz								
Max. Current <sup>2</sup>	18.7A	28.1A	37.4A	56.1A	84.2A	112.2A	140.3A	209.7A	
Power Factor	≥0.9 ( Max. Power )							≥0.85 ( Max. Power )	
<b>OUTPUT</b>									
Power	10kVA	15kVA	20kVA	30kVA	45kVA	60kVA	75kVA	100kVA	
Phase	3Ø / 4 Wire + G								
Voltage Ranges	Low(V) 0V-150.0V ( L-N )								
	High(V) 0V-300.0V ( L-N )								
Voltage Resolution	0.1V								
Voltage Accuracy	0.5% F.S.+4 counts								
Frequency Range	Standard : 45-65Hz Option : 45-500Hz								
Frequency Resolution	0.1Hz								
Frequency Accuracy	0.5% F.S.+4 counts								
Max. Current (RMS)	27.8A	41.7A	55.6A	83.3A	125A	166.7A	208.3A	277.8A	
	13.9A	20.8A	27.8A	41.7A	62.5A	83.3A	104.2A	138.9A	
Line Regulation	< 1%								
Load Regulation	± 1% (Resistive Load)								
Total Harmonic Distortion(THD) <sup>3</sup>	≤ 2% (Resistive Load)								
Response Time	≤ 2ms								
<b>MEASUREMENT</b>									
Voltage Range	0V-300.0V								
Voltage Resolution	0.1V								
Voltage Accuracy	0.5% F.S.+4 counts								
Frequency Range	45.0-500.0Hz								
Frequency Resolution	0.1Hz								
Frequency Accuracy	0.5% F.S.+4 counts								
Current Range(RMS)	0 - 27.8A	0 - 41.7A	0 - 55.6A	0 - 83.3A	0 - 125A	0 - 166.7A	0 - 208.3A	0 - 277.8A	
Current Resolution(RMS)	0.1A								
Current Accuracy(RMS)	0.5% F.S.+4 counts								
Power Range	0 - 10kW	0 - 15kW	0 - 20kW	0 - 30kW	0 - 45kW	0 - 60kW	0 - 75kW	0 - 100kW	
Power Resolution	0.1kW								
Power Accuracy	1% F.S.+6 counts								
<b>GENERAL</b>									
Efficiency	≥0.9 at Max. Power							≥0.85 at Max. Power	
HMI	Touch Screen , 7" Color TFT LCD								
Program Mode	STEP : 24 sets / 255 cycles. (Volt./Freq./Time) GRADUAL : 12 sets / 255 cycles. (Volt./Freq./Time)								
Protection	Input : Input N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Reverse Current, Over Temperature and machine will display the error code and give a warning sound.								
Remote Interface	Standard : RS-232/RS-422/RS-485 Option : GPIB, Ethernet								
Operational Temperature	0°C ~45°C								
Humidity	0-90% ( Non condensing )								
Altitude	< 1,500m								
Dimensions (H x W x D)	945 x 600 x 850mm	1340 x 600 x 850mm			1545 x 800 x 860mm		1900 x 1150 x 1240mm		
	37.2 x 23.6 x 433.5inch	52.8 x 23.6 x 33.5inch			60.82 x 31.5 x 33.9inch		74.8 x 45.3 x 48.8inch		
Weight	280kg	305kg	360kg	400kg	560kg	670kg	960kg	1120kg	
	617.4lbs	673lbs	793.8lbs	882lbs	1234.8lbs	1477.4lbs	2116.8lbs	2470lbs	

\*1 Please contact for other voltage specification.

\*2 The rated input voltage is 220V/380V.

\*3 Low : 90 - 140V or High 180 - 280V.

\* all specifications are subject to change without notice.

## SPECIFICATIONS

### AFV Series three-Phase Output (150kVA - 2000kVA)

Model	AFV-33150	AFV-33200	AFV-33300	AFV-33400	AFV-33500	AFV-33600	AFV-33800	AFV-331000	AFV-331200	AFV-331500	AFV-332000		
<b>INPUT</b>													
Phase	3Ø / 4 Wire + G												
Voltage <sup>*1</sup>	220V/380V±15%												
Frequency	50Hz±3Hz or 60Hz±3Hz												
Max. Current <sup>*2</sup>	314.6A	419.4A	629.1A	838.8A	1048.5A	1258.3A	1677.7A	2097.1A	2516.5A	3145.6A	4194.2A		
Power Factor	≥0.85 ( Max. Power )												
<b>OUTPUT</b>													
Power	VA	150kVA	200kVA	300kVA	400kVA	500kVA	600kVA	800kVA	1000kVA	1200kVA	1500kVA	2000kVA	
Phase	3Ø / 4 Wire + G												
Voltage Ranges	Low(V)	0V~150.0V ( L-N )											
	High(V)	0V~300.0V ( L-N )											
Voltage Resolution	0.1V												
Voltage Accuracy	0.5% F.S.+4 counts												
Frequency Range	Standard : 45~65Hz Option : 45-500Hz												
Frequency Resolution	0.1Hz												
Frequency Accuracy	0.5% F.S.+4 counts												
Max. Current (RMS)	Low(A)	416.7A	555.6A	833.3A	1111.1A	1388.9A	1666.7A	2222.2A	2777.8A	3333.3A	4166.7A	5555.6A	
	High(A)	208.3A	277.8A	416.7A	555.6A	694.4A	833.3A	1111.1A	1388.9A	1666.7A	2083.3A	2777.8A	
Line Regulation	< 1%												
Load Regulation	± 1% (Resistive Load)												
Total Harmonic Distortion(THD) <sup>*3</sup>	≤ 2% (Resistive Load)												
Response Time	≤ 2ms												
<b>MEASUREMENT</b>													
Voltage Range	0V~300.0V												
Voltage Resolution	0.1V												
Voltage Accuracy	0.5% F.S.+4 counts												
Frequency Range	45.0-500.0Hz												
Frequency Resolution	0.1Hz												
Frequency Accuracy	0.5% F.S.+4 counts												
Current Range(RMS)	0 - 416.7A	0 - 555.6A	0 - 833.3A	0 - 1111.1A	0 - 1388.9A	0 - 1666.7A	0 - 2222.2A	0 - 2777.8A	0 - 3333.3A	0 - 4166.7A	0 - 5555.6A		
Current Resolution(RMS)	0.1A												
Current Accuracy(RMS)	0.5% F.S.+4 counts												
Power Range	0 - 150kW	0 - 200kW	0 - 300kW	0 - 400kW	0 - 500kW	0 - 600kW	0 - 800kW	0 - 1000kW	0 - 1200kW	0 - 1500kW	0 - 2000kW		
Power Resolution	0.1kW												
Power Accuracy	1% F.S.+6 counts												
<b>GENERAL</b>													
Efficiency	≥0.85 at Max. Power												
HMI	Touch Screen, 7" Color TFT LCD												
Program Mode	STEP : 24 sets / 255 cycles. (Volt./Freq./Time) GRADUAL : 12 sets / 255 cycles. (Volt./Freq./Time)												
Protection	Input : Input N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Reverse Current, Over Temperature and machine will display the error code and give a warning sound.												
Remote Interface	Standard :RS-232/RS-422/RS-485 Option :GPIB, Ethernet												
Operational Temperature	0°C ~45°C												
Humidity	0~90% ( Non condensing )												
Altitude	< 1,500 m												
Dimensions (H x W x D) <sup>*4</sup>	1900 x 1150 x 1240 mm			2051 x 1539 x 4514mm			2050 x 4716 x 1520 mm		2050 x 6003 x 1520mm		2200 x 10827 x 1590 mm		2200 x 12990 x 1590mm
	74.8 x 45.27 x 48.81 inch			80.74 x 60.59 x 177.71inch			80.7 x 185.66 x 59.84 inch		80.7 x 236.33 59.84inch	86.61 x 426.26 x 62.59 inch		86.61 x 511.4 x 62.59inch	
Weight	1750kg	2300kg	3450kg	4450kg	5550kg	7350kg	8800kg	10550kg	16000kg	17400kg	19000kg		
	3858.8lbs	5072lbs	7607lbs	9812.3lbs	12238lbs	16211lbs	19404lbs	23263lbs	35280lbs	38367lbs	41895lbs		

\*1 Please contact for other voltage specification.

\*2 The rated input voltage is 220V/380V.

\*3 Low : 90 - 140V or High 180 - 280V.

\*4 for AFV series over 400kVA, please contact us for details.

\* all specifications are subject to change without notice.

## ORDERING INFORMATION :

## AFV Series Single-Phase Output (10kVA - 150kVA)

Model Number	Description
AFV-31010	High Power Programmable AC Power Source (10kVA/300V/45-65Hz)
AFV-31015	High Power Programmable AC Power Source (15kVA/300V/45-65Hz)
AFV-31020	High Power Programmable AC Power Source (20kVA/300V/45-65Hz)
AFV-31030	High Power Programmable AC Power Source (30kVA/300V/45-65Hz)
AFV-31045	High Power Programmable AC Power Source(45kVA/300V/45-65Hz)
AFV-31060	High Power Programmable AC Power Source(60kVA/300V/45-65Hz)
AFV-31075	High Power Programmable AC Power Source(75kVA/300V/45-65Hz)
AFV-31100	High Power Programmable AC Power Source(100kVA/300V/45-65Hz)
AFV-31150	High Power Programmable AC Power Source (150kVA/300V/45-65Hz)
AFV-001	Output Frequency 45Hz-500Hz
AFV-002	Soft Start Mode
AFV-005	GPIB Interface
AFV-006	Ethernet Interface

## AFV Series three-Phase Output (10kVA - 2000kVA)

Model Number	Description
AFV-33010	High Power Programmable AC Power Source (three-Phase Input) (10kVA/300V/45-65Hz)
AFV-33015	High Power Programmable AC Power Source (three-Phase Input) (15kVA/300V/45-65Hz)
AFV-33020	High Power Programmable AC Power Source (three-Phase Input) (20kVA/300V/45-65Hz)
AFV-33030	High Power Programmable AC Power Source (three-Phase Input) (30kVA/300V/45-65Hz)
AFV-33045	High Power Programmable AC Power Source (three-Phase Input) (45kVA/300V/45-65Hz)
AFV-33060	High Power Programmable AC Power Source (three-Phase Input) (60kVA/300V/45-65Hz)
AFV-33075	High Power Programmable AC Power Source (three-Phase Input) (75kVA/300V/45-65Hz)
AFV-33100	High Power Programmable AC Power Source (three-Phase Input) (100kVA/300V/45-65Hz)
AFV-33150	High Power Programmable AC Power Source (three-Phase Input) (150kVA/300V/45-65Hz)
AFV-33200	High Power Programmable AC Power Source (three-Phase Input) (200kVA/300V/45-65Hz)
AFV-33300	High Power Programmable AC Power Source (three-Phase Input) (300kVA/300V/45-65Hz)
AFV-33400	High Power Programmable AC Power Source (three-Phase Input) (400kVA/300V/45-65Hz)
AFV-33500	High Power Programmable AC Power Source (three-Phase Input) (500kVA/300V/45-65Hz)
AFV-33600	High Power Programmable AC Power Source (three-Phase Input) (600kVA/300V/45-65Hz)
AFV-33800	High Power Programmable AC Power Source (three-Phase Input) (800kVA/300V/45-65Hz)
AFV-331000	High Power Programmable AC Power Source (three-Phase Input) (1000kVA/300V/45-65Hz)
AFV-331200	High Power Programmable AC Power Source (three-Phase Input) (1200kVA/300V/45-65Hz)
AFV-331500	High Power Programmable AC Power Source (three-Phase Input) (1500kVA/300V/45-65Hz)
AFV-332000	High Power Programmable AC Power Source (three-Phase Input) (2000kVA/300V/45-65Hz)
AFV-001	Output Frequency 45Hz-500Hz
AFV-002	Soft Start Mode
AFV-003	Three Phase Independent Adjustment
AFV-004	Three Phase Angle Adjustment
AFV-005	GPIB Interface
AFV-006	Ethernet Interface