

PROGRAMMABLE
PRODUCT
CATALOG

2026

AC + DC Power Solutions

- Programmable AC Power Source
- Programmable DC Power Supply
- Regenerative Grid Simulator
- Power Supplies for Defense & Aerospace
- Power Conditioner / AVR
- Solutions & Automatic Test System (ATS)

New Generation for New Energy

Solar Inverters ⚡ PCS ⚡ V2G

The Smart Inverter ATS is complied with AC&DC regulations, simulating abnormal voltage and frequency conditions, as well as testing the input and grid connection performance, which is suitable for PV inverters, Power Conditioning Systems (PCS), and Vehicle-to-Grid (V2G) applications, it can simulate various standards such as IEEE 1547.1, EN 50530, CNS 15382, and UL 1741 standards.



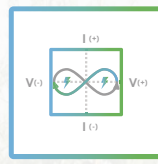
HVRT and LVRT



PV/IV Curve



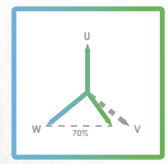
Harmonics Waveform
Synthesis



Regenerative
Function



Remote Control
Software



Phase Angle
Adjustment



High-Power Smart Inverter ATS



Multi-Channel Smart Inverter ATS



Product
Info.



Product
Video

The EV Era Has Begun

Electric Vehicle Supply Equipment ATS

Preen's Electric Vehicle Supply Equipment (EVSE) Automatic Testing System (ATS) is designed with flexible system structure and intuitive control software. Aimed to automatic AC and DC chargers' testing, EVSE ATS is complied with related interoperability test specifications.

- Application: AC&DC Chargers, OBCs, Motor inverter, High-voltage Motor and DC/DC Converter etc.
- Complied with relevant regulations and various EV charger sockets : SAE J1772, UL 2202, IEC 61851, CNS 15511, GB/T 18487.1 and NB/T 33001.
- Simulate the corresponding protection of the charger when the signal of control pilot changes according to each working conditions.



Higher Power

Better Performance

Preen's latest AFV-P Series takes programmable AC power to the next level. With smarter functionality and a broader specification range, it's built to handle a wider variety of testing scenarios. Offering stronger performance in a compact unit, the new AFV-P Series delivers an upgraded experience for R&D labs and quality assurance teams.



Lightweight Design

50% lighter



Enhanced Output Performance

**0~350V
800~6000VA**



Active PFC

PF ≥ 98%

■ Power Line Disturbance Simulation (PLD) :

for Pre-compliance Tests of IEC-61000-4- 11/14/28 etc.

■ Wide Voltage Range :

The output voltage now extends from 0 to 350 VAC and from 420 VDC up to 480 VDC, supporting a broader range of global power standards.

**MAJOR
UPGRADE**



AFV-P Series Programmable AC Power Source

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AC Power Corp. Over 35 Years of Excellence

For the past 35 years, AC Power Corp. (Preen) has been focusing on developing and manufacturing power supplies for testing, power conversion and power conditioning applications. With continuous effort on product innovations and quality improvements, AC Power Corp. is able to establish its name as the leading power supply provider and has one of the highest total power shipped in the world. AC Power Corp. today offers a portfolio of programmable power supplies and solutions under the brand “Preen” for countless industries that include renewable energy, electric vehicle, automotive testing system, aerospace and defense.

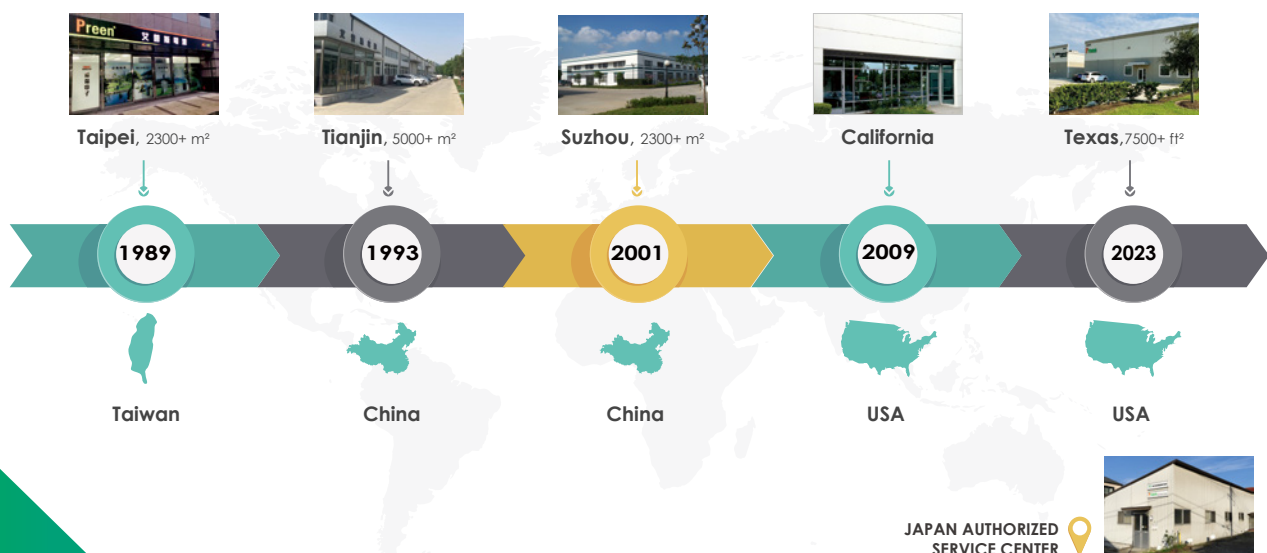


Driven by the company's motto: Value and Innovations, AC Power Corp.'s objective is to continuously provide the customers and markets with solutions that assist them to better innovate products and solve issues. The 35th Anniversary Logo is inspired by the idea of innovation, and it symbolize the continuous endeavor and focus on product and organization innovations.

AC + DC Power Solutions for a Variety of Applications

Found in 1989, Preen (AC Power Corp.) is a world leader in power supply systems and has been developing AC and DC power supplies based on the core technology of power conversion. We provide advanced, reliable and cost effective power products including AC power source, DC power supply, regenerative grid simulator, power supplies for aerospace and defense, and line conditioners.

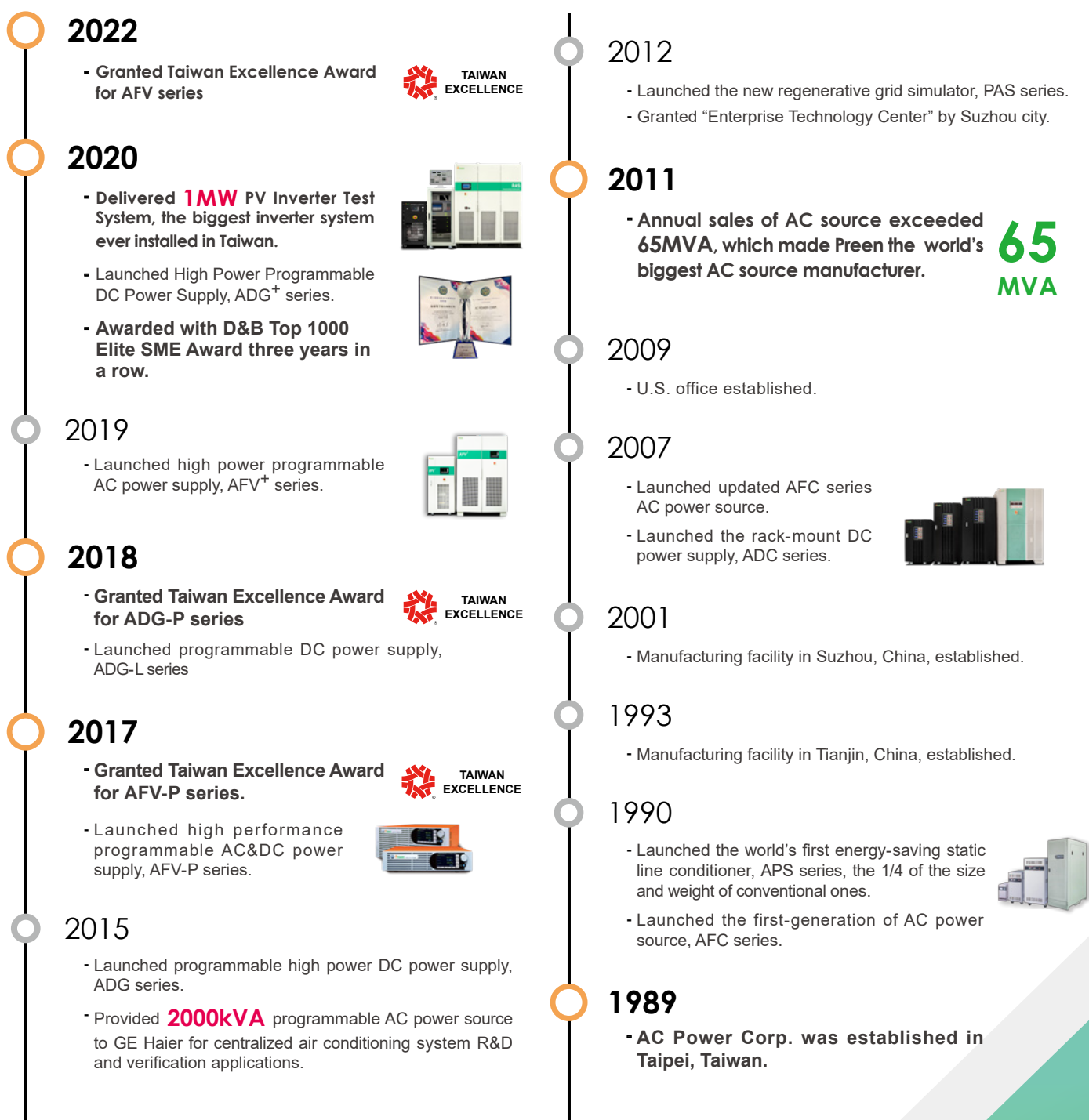
Preen's customer base consists of major international corporations. The significant markets Preen served include electric vehicle, renewable energy, home appliance and consumer product manufacturing, military, aerospace, and general R&D and EMC compliance testing.



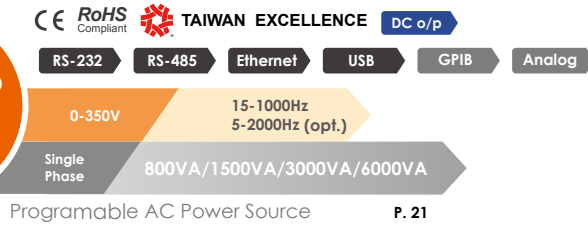
Value & Innovation

With corporate office located in Taipei, Taiwan, Preen has total three manufacturing facilities and multiple branch offices and service location worldwide, including the U.S. office located in Irvine, CA. Preen's core philosophy, Value & Innovation reflects on the continuously improvement of product quality and design. Many of our products are CE and RoHS certified, in line with international safety standard and environmental friendly development. All Preen's manufacturing facilities have ISO9001:2015 certifications. We keep rigorous controls on manufacturing processes and plant management to ensure only the top-quality products are delivered.

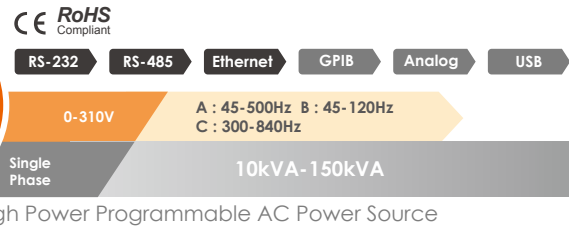
Company History



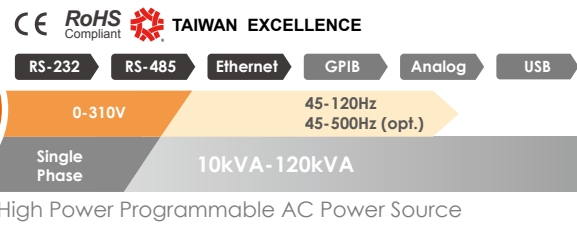
AFV-P Series



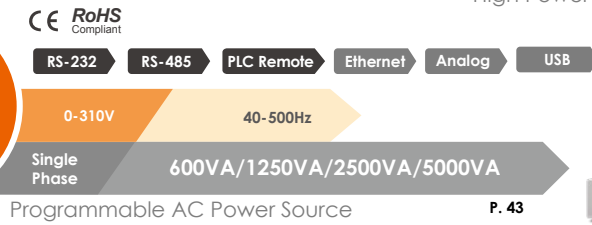
AFV+ Series



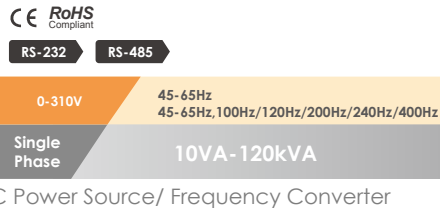
AFV Series



AFV-S Series

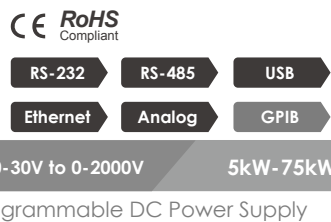


AFC Series

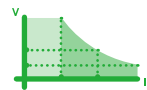


DC Power Supply

ADG-L Series



3 Times Auto Range Model
Lower Voltage, Higher Current

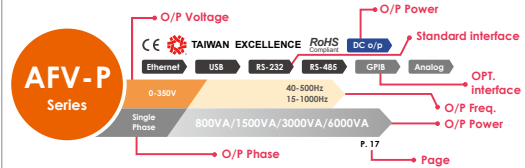


Features:

- Ideal for IEC-61000-4-11 pre-compliance test
- Total 1200 steps
- Power Line Disturbance Simulation (PLD)
- Complimentary Control Software



How to read the chart



Three
Phase

10kVA-2000kVA

P. 29



Three
Phase

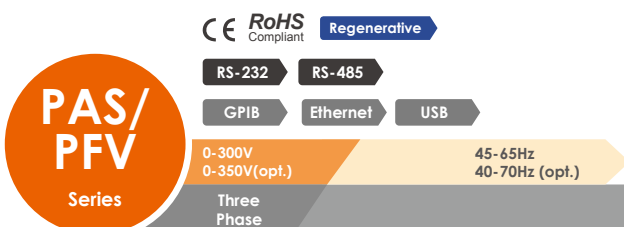
10kVA-2000kVA

P. 37



10kVA-2000kVA

P. 47



Regenerative Grid Simulator

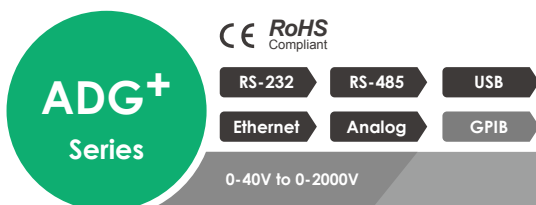
Four Quadrant Operation and Regenerative Function

Sink and Source Current
Back to Simulator



30kVA-2000kVA

P. 54



High Power Programmable DC Power Supply

I-V Curve

Built-in
EN50530 Formula



30kW / 50kW / 75kW / 100kW / 300kW / 1800kW

P. 60

30k VA/W

100k VA/W

over 300k VA/W

AC Power Source Selection Guide



Series		AFV-P	AFV +	AFV	AFV-S	AFC	PAS
Output Phase		1Ø	1Ø / 3Ø	1Ø / 3Ø	1Ø	1Ø / 3Ø	3Ø
Output Power		0.8-6kVA	10-2000kVA	10-2000kVA	0.6-5kVA	5-2000kVA	30-2000kVA
Output Voltage		0-350V	0-310V	0-310V	0-310V	0-310V	0-300V 0-350V(opt.)
Output Frequency		A : 5-2000Hz B : 15-1000Hz	A : 45-500Hz B : 45-120Hz C : 300-840Hz	45-120Hz 45-500Hz(opt.)	40-500Hz	45-65Hz 45-65Hz, 100Hz/ 120Hz/200Hz/240Hz/400Hz (opt.)	45-65Hz 40-70Hz (opt.)
Total Harmonic Distortion (THD)		≤ 0.3-2%	≤ 0.5%	≤ 1%	≤ 0.3-0.5%	≤ 2%	≤ 2%
Load Regulation		≤ 0.07%	≤ 0.5%	≤ 1%	≤ 0.07%	≤ 1%	≤ 1%
Efficiency		≥ 77-80%	≥ 85-90%	≥ 85-90%	≥ 77-80%	≥ 85-90%	≥ 92%
DC Output		○	-	-	-	-	-
Step & Gradual (Ramp)		○	○	○	-	-	○
Regenerative Function		-	-	-	-	-	○
Transient		○	-	-	-	-	-
Power Line Disturbance		○	○	○	-	-	○
Start & End Angle Setting		○	Start Angle Setting(opt.)	-	○	-	-
Three Phase Independent Adjustment		-	○	△	-	-	○
Phase Angle Adjustment		-	△	△	-	-	-
Sync. Signal		○	-	-	○	-	-
Soft Start Function		-	○	△	-	-	△
Remote Sensing		○	○	△	○	-	-
Interface	RS-232	○	○	○	○	○	○
	RS-485	○	○	○	○	○	○
	USB	○	△	△	△	-	△
	Ethernet	○	○	○	△	-	△
	GPIO	△	△	△	-	-	△
	Analog	△	△	△	△	-	-
Preen Program (Remote Control Software)		○	○	△	-	-	-
HMI		Touch Screen	Touch Screen	Touch Screen	Touch Screen	Touch Screen	Touch Screen
Other Features		Response time ≤ 300us Inrush Current ≥ 4.5/9 time of max.output current (RMS) The Height is 2U(up to 2.5kVA) / 4U (5kVA) Only	High Power Models Available Remote Control Software	Response time ≤ 2ms	Response time ≤ 300us Inrush Current ≥ 4 time of max.output current (RMS) The Height is 2U(up to 2.5kVA) / 4U (5kVA) Only	Response time ≤ 2ms	With High/Low Voltage Ride Through (HVRT/LVRT) Simulation
Applications	Home Appliance	■	■	■	■	■	-
	Laboratory/Certification Bureau	■	-	■	■	■	■
	Industrial Power Supply	■	■	■	■	■	-
	Renewable Energy	-	■	■	-	■	■
	Electric Vehicles	■	■	■	■	■	■
	IT / SMT Production Line	■	■	■	■	■	-
	Medical Industry	-	■	■	-	■	-
	Aerospace & Defense	■	■	-	■	-	-
	Transportation	■	■	■	■	■	-
	Motor & Compressor	■	■	■	■	■	■
	Shore Power & Shipbuilding	-	■	■	-	■	-
	Communication Industry	■	■	-	■	-	-

○ Standard

△ Optional

■ Specially Designed for the applications

- None

DC Power Supply Selection Guide



Series		ADG-L	ADG+
Output Power		5-75kW	30-1800kW
Output Voltage		0-30V to 0-2000V* ¹	0-40V to 0-2000V* ¹
Ripple		down to < 0.05%	
Line Regulation		≤ 0.03%* ²	≤ 0.05%
Load Regulation		≤ 0.3%	
Efficiency		≥ 84-90%	
Output Mode		CV / CC / CP	
Step & Gradual		○	○
Parallel /Series Connection		○	○
Auto Range		△ (3-times)	△
Transient Response		≤ 5 ms	Down to ≤ 6ms
Error Log		○	○
OVP/ OCP Protection		○	○
Remote Sensing		○	○
Interface	RS-232	○	○
	RS-485	○	○
	USB	○	○
	Ethernet	○	○
	GPIB	△	△
Analog		○	○
Preen Program (Remote Control Software)		○	○
HMI		Touch screen	Touch screen
Other Features		15 kW only 3U	Output up to 2000V/2500A
		Power Factor ≥ 0.99	Solar Array Simulation
		IV Curve Simulation	Emergency Stop Button
		Series Connection (Max. 2 units) Parallel Connection (Max. 5 units)	Series Connection (Max. 2 units) Parallel Connection (Max. 6 units)
		■	■
Applications	Home Appliance	■	■
	Laboratory/Certification Bureau	■	■
	Industrial Power Supply	■	■
	Renewable Energy	■	■
	Electric Vehicles	■	■
	IT / SMT Production Line	■	■
	Medical Industry	■	■
	Aerospace & Defense	■	■
	Transportation	■	■
	Motor & Compressor	■	■
	Shore Power & Shipbuilding	-	-
	Communication Industry	■	-

*1 Through series connection

*2 Please contact us for specifications

○ Standard

△ Optional

■ Specially Designed for the applications

- None

Smart Inverter ATS



High-Power Smart Inverter ATS



Multi-Channel Smart Inverter ATS

The Smart Inverter ATS can meet the electrical performance test of relevant grid-connected test standards such as IEEE 1547.1, EN 50530, NB/T 32004, CNS 15382 and CNS 15599.

The system is designed according to the specifications of various standards, and has built in the test items into the system. The tests include the abnormal voltage and frequency test, synchronization test, open phase test, reconnect test and harmonics test. Preen's Smart Inverter ATS can test PV inverter's input voltage up to

2000Vdc, grid tied voltage up to 600V(L-L) and output power up to 2000kW. Moreover, all test data are saved in the system for further analysis and comparison.

The Multi-Channel Smart Inverter ATS can effectively simulate multiple solar panels. Each channel can be independently controlled and configured with different sunlight and temperature condition and it is ideal for maximum power point tracking efficiency (MPPT) testing.

Applications

- PV Inverter
- AC & DC EV Charger
- Power Conditioning System
- V2G (Vehicle-to-grid)

QR Code



Product Info.



Product Video



IV Curve Simulation



1500V PV System Simulation

Input Characteristic

- Input Voltage
- Input MPPT Voltage
- Input Current
- Input MPPT Voltage Current
- Input Power
- Input MPPT Power

Protection and Timing Test

- OV/UV Protection
- OVP/UVF Trip Time
- OF/UF Protection
- OFF/UF Trip Time
- Anti-islanding
- Anti-islanding Trip Time
- Re On-Grid Time

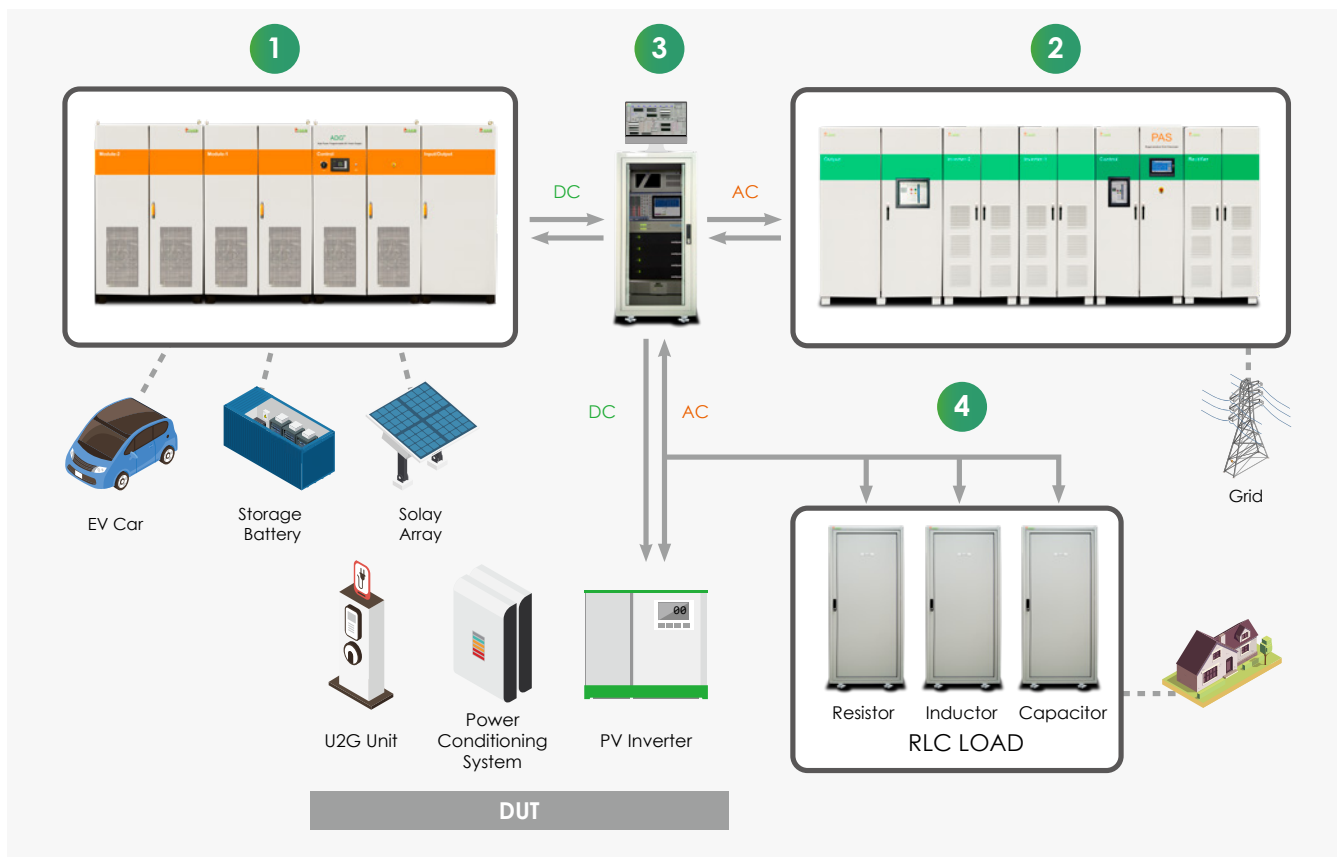
Output Performances

- Output Voltage
- Output Current
- Output Power
- Output Power Factor
- Efficiency
- Low Voltage Ride Through
- High Voltage Ride Through
- DC Injection Current
- THD
- Current Harmonic Test

Other Characteristic

- MPPT Efficiency
- MPPT Time
- MPPT Record
- Hipot Test
- Withstanding Voltage/Insulation Test
- Grounding Impedance Test

Structure of Smart Inverter ATS



Instruments

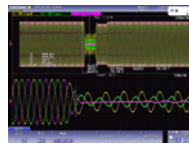
- 1 ADG Series, High Power Programmable DC Power Supply (I-V Curve)**
 - Output Power : 30kW-1800kW
 - Output Voltage : 0-2000V
 - Output Current : 0-2500A
 - Solar Array Simulation (Built-in EN50530 and I-V Curve Formula)
 - Static or Dynamic MPPT Simulation
 - I-V Curve Simulation
 - Precise Voltage and Current Measurement
- 2 PAS Series, Regenerative Grid Simulator**
 - Output Power : 30kVA-2000kVA
 - Output Voltage : 0-300V_{L-N} (Option: 350V_{L-N})
 - Output Frequency : 45-65Hz (Option : 40-70Hz)
 - Simulate the Grid Voltage and Frequency Changes
 - Four-quadrant AC Source for Regenerate and Recycle the Power to the Grid
 - LVRT and HVRT Testing Simulation
 - Harmonic Simulation Function (Option)
- 3 System Controller**
 - Industrial Computer
 - Digital Oscilloscope
 - Digital Power Analyzer
- 4 RLC Load**
 - Simulate Anti-islanding
 - Testing Output Efficiency, Active Power and Reactive Power of the PV Inverter
 - Testing Output Voltage, Current and Power of the PV Inverter

Three Phase Independent Output Voltage Setting

Independent setting for three phase high/low voltage ride through to simulate voltage surge and drop.



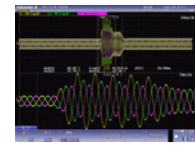
Low Voltage Ride Through Setting



LVRT Output Waveform



High Voltage Ride Through Setting



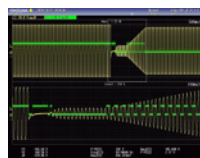
HVRT Output Waveform

Low Voltage Ride Through Test-IEEE Std 1547.1-2020

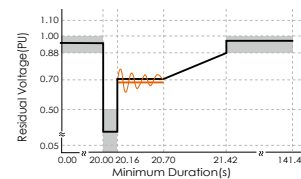
Low voltage ride through (LVRT) testing is necessary for testing the grid fault capability of power generation plants. It is one of the key test items to test the capability of electric generators, such as PV inverters, to stay connected in short periods of lower electric network voltage.



Setting for LVRT



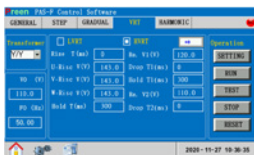
LVRT Output Waveform



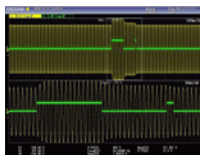
LVRT Test Standard IEEE Std 1547.1-2020

High Voltage Ride Through Test-IEEE Std 1547.1-2020

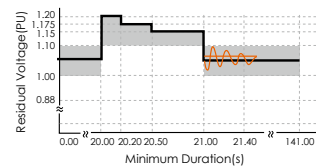
High voltage ride through (HVRT) testing is necessary for testing the grid fault capability of power generation plants. It is one of the key test items to test the capability of electric generators to stay connected in short periods of higher electric network voltage.



Setting for HVRT



HVRT Output Waveform

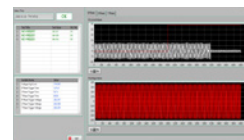
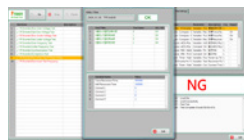


HVRT Test Standard IEEE Std 1547.1-2020

Intuitive Remote Control Software

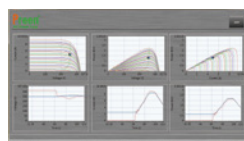
Main Control System and Measurement Waveform Display

With its intuitive and graphic display, the main control system can show the present AC power, DC power and EUT's testing status, and even continuously monitor and measure EUT's parameters and waveforms.



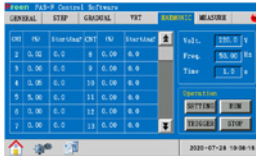
Solar Array Simulation Function with Multiple Graphic Display

Solar array simulation function is able to show multiple graphic displays on software panel. It can easily realize SAS mode and meet EN 50530 standards requirements for static or dynamic MPPT test through simple parameter setting.



Harmonics Waveform Synthesis Function(Opt.)

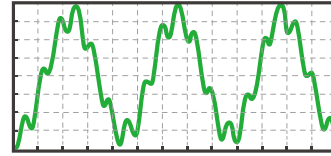
PAS series' harmonics waveform synthesis function allow user to program complex distorted harmonic waveform and generate up to 25 harmonics. It can simply set up voltage and adjust start phase of each step based on 50 or 60Hz fundamental frequency.



Setting for the harmonics waveform synthesis function



Display for the harmonics waveform synthesis function



Programmable harmonic waveform synthesis function

Anti-islanding Testing

Islanding is resulted from abnormal frequencies and voltages and power quality issues when it is not under strict frequency control. Distributed generators must detect islanding and immediately disconnect from the circuit; referred to as anti-islanding. For this reason, solar inverters that are designed to supply power to the grid are generally required to have some sort of automatic anti-islanding circuitry.

With our Smart Inverter test system software, it can easily simulate the occurrence of resonance^{*1} that lead to PAS grid simulator to disconnect with grid source to test whether the PV inverter is capable of promptly monitoring islanding situation and instantly cutting off from grid. The standard protection time is no less than 2s.

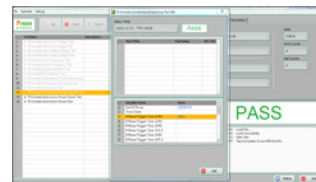
$$(*1 : Q_f = \frac{\sqrt{P_{qL} \times P_{qC}}}{P} = 1.0 \pm 0.05)$$



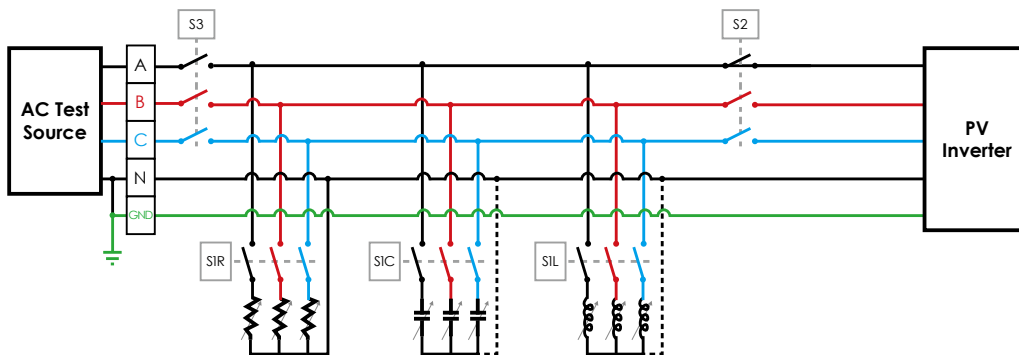
PV Inverter Control Test



RLC Load Control Test



Anti-islanding Test



Anti-islanding Test Diagram
(IEEE 1547.1-2020)

Main Test Functions

Smart Inverter test system can meet electrical performance test of relevant grid-connected test standards such as IEEE 1547.1 / EN 50530 / NB/T 32004 / CNS 15382.

Main Test Functions

1. Slow Over Voltage Test
2. Fast Over Voltage Test
3. Slow Under Voltage Test
4. Fast Under Voltage Test
5. Over Frequency Test
6. Under Frequency Test
7. Synchronization Test
8. DC Injection Test
9. Unintentional Islanding Test
10. Open Phase Test
11. Reconnect Test
12. Harmonics Test

EVSE ATS

Electric Vehicle Supply Equipment ATS

QR Code



Product
Info.



Product
Video



Preen's EVSE ATS is designed for verification of AC and DC EV chargers, which comply to regulation of SAE J1772 and CNS 15511, NB/T 33001, NB/T 33002, NB/T 33008.1 and NB/T 33008.2, GB/T 18487.1 and GB/T 27930; and Interoperability test specifications of electric vehicle conductive charging.

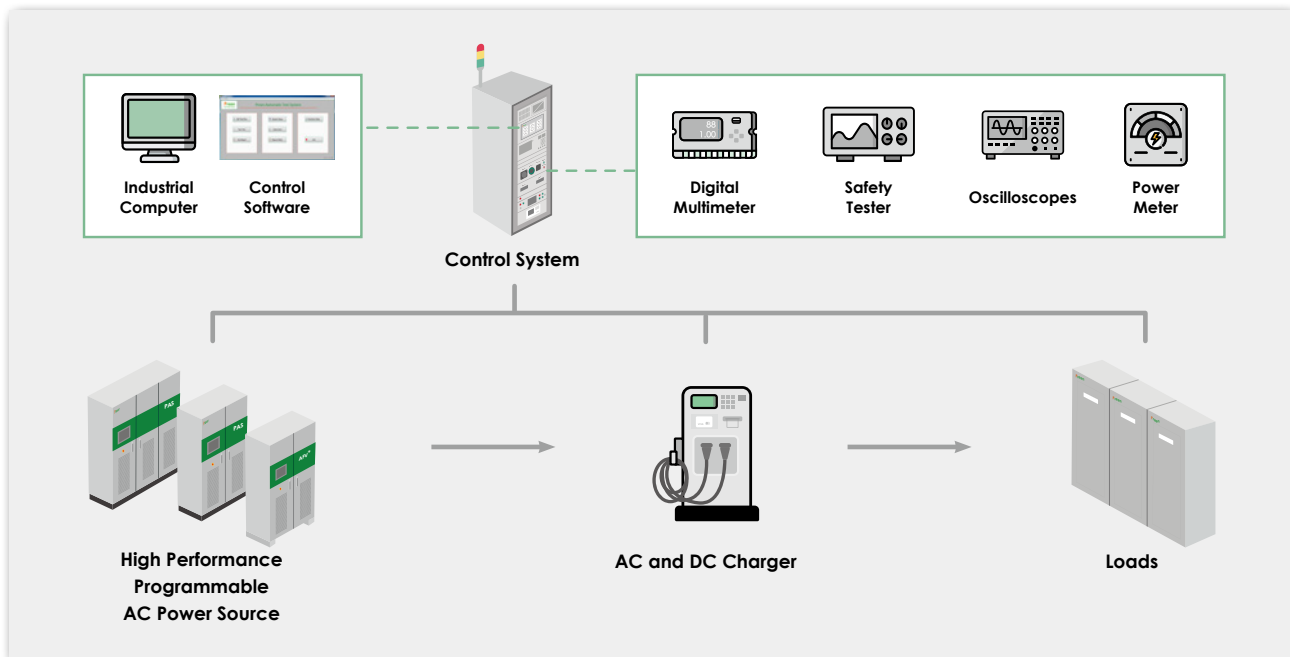
This system mainly provides electric performance test and communication protocol test for AC and DC charger, integrating the testing items of related standards to optimize testing efficiency.

It can simulate the output and communication operation of the charger to test whether the magnetic field generated by the high-capacity transmission will interfere with the communication. And it also can simulate the corresponding protection of the charger when the signal of control pilot changes during the charging process.

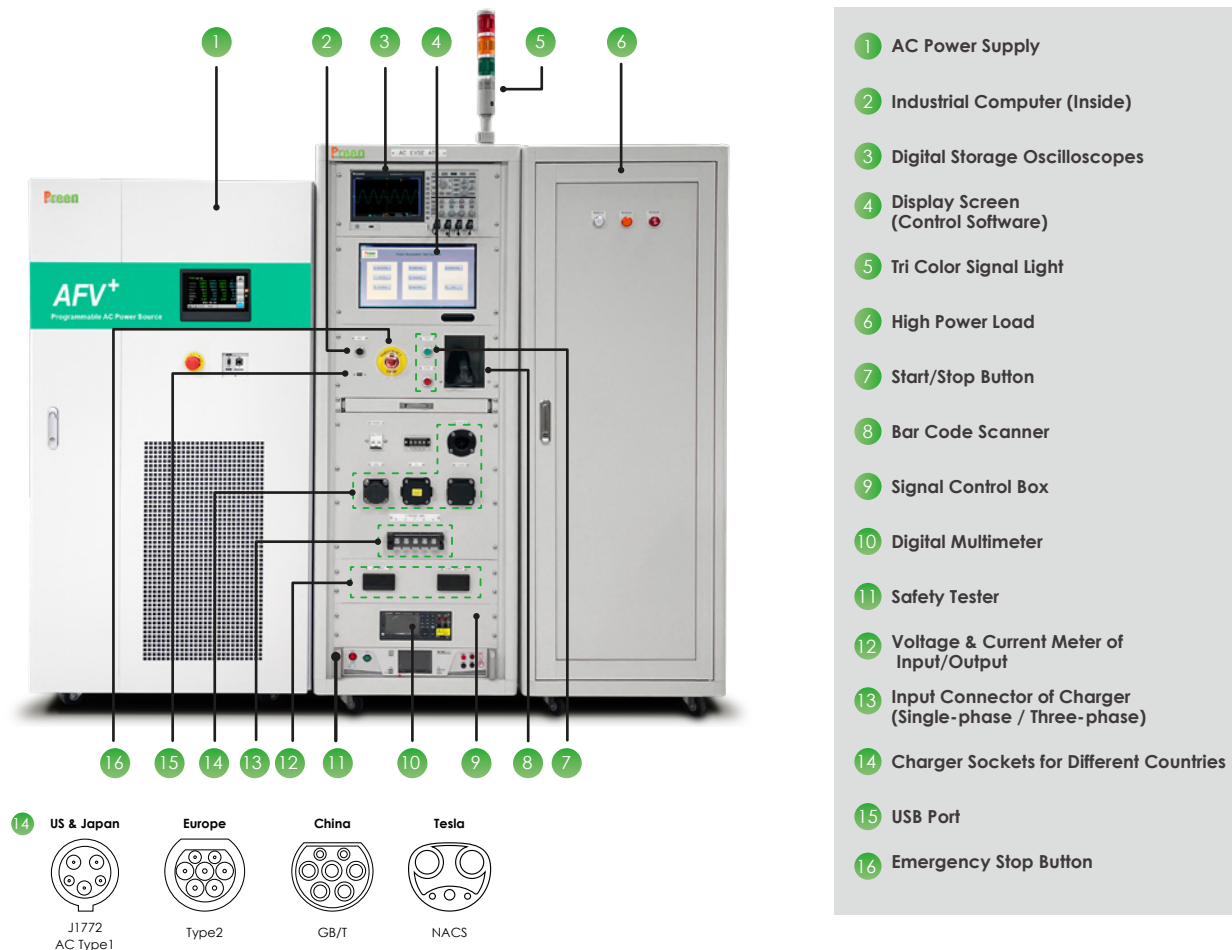
Product Features

- Complied with relevant national regulations: NB/T 33001, NB/T 33002, NB/T 33008.1, NB/T 33008.2, GB/T 18487.1 and GB/T 27930.
- Ideal for high-power charger testing : equipped with Preen's high power AC sources and loads, featuring various models and power levels.
- Flexible system configuration: can be customized for customer's need.
- Suitable for various EV charger sockets.
- Simulate the corresponding protection of the charger when the signal of control pilot changes according to each working conditions.
- Capable to perform touch current insulation testing.
- Intuitive control software, easy to use.

Structure of EVSE ATS



Instrument and Equipment Overview



Key Advantages

Preen's EVSE ATS is designed based on the type and regulations of EV charger in various countries. Not only meeting multiple testing standard of EV charger, EVSE ATS also provides flexibility in system design. It can be configured according to the customer's requirement or existing instruments, and automatically generates test results and reports. EVSE ATS is equipped with Preen's high-power AC sources and loads, featuring various models and power levels, providing a cost-effective and reliable testing solution.

Flexible System Configuration

System structure uses flexible open platform, depending on customer's need, equipment, instruments, meter setting, test result recording and report generation.

Self-developed Product

Self-developed system programming complies with related regulations such as power, communication, safety and touch current test.



Compatible with Various Types of EV Charger

Applicable for EV charger types in various countries.

Competitive Price

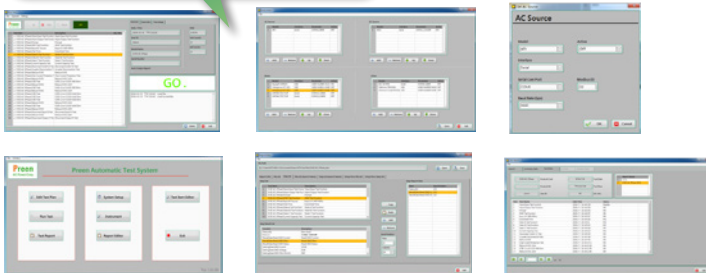
Self-developed control software, high-power AC source and load effectively reduce the system cost.

Intuitive Software Platform

Preen's EVSE ATS testing software platform is designed as an open and flexible structure, the user can set different criteria to each testing item and make adjustments according to different instruments. It can also interpret PASS/FAIL automatically and generate test results in the form of reports. The user can set Security Level, Full System Access, Edit Setups and Recall Setups in system setting page.

Flexible Software Configuration

Configured according to customer's requirement and existing instruments.



○ Friendly Environment :

Intuitive operation and various functions for testing condition.

○ Editable Testing Project :

Testing project can be organized according to user's need.

○ Security Level Setting :

Avoid mis-setting and facilitate internal management for corporation.

○ Report Editing and Automatic Generation :

Advanced settings for test item editing with flexibility to adjust test complexity.

○ Automated Generation of Reports and Editing :

Easily record test results and increase productivity.

Preen's High-Power Power Supply

Preen's EVSE ATS can combine with AFV⁺ series High Power Programmable Power Supply (10kVA-2000kVA) or PAS series Regenerative Grid Simulator (30kVA-2000kVA) for powering single-phase/three-phase input of charger. These two products can provide voltage / frequency / current testing for EV charger from various countries, and simulate overvoltage, undervoltage and related protection testing.



AFV⁺

- **Output Power :**
10kVA-2000kVA
- **Output Voltage :**
0-155V/0-310Vac
- **Output Frequency :**
Up to 45-500Hz(opt.)
- **Programmable Voltage and Frequency**



PAS

- **Output Power :**
30kVA-2000kVA
- **Output Voltage :**
0-300Vac/0-350Vac(opt.)
- **Output Frequency :**
45-65Hz/40-70Hz(opt.)
- **Feature with Four-Quadrant Regenerative Function**

Standard Testing Items

EVSE ATS is an automatic testing system aimed for AC and DC charger regulation, which comply to regulation of SAE J1772 and CNS 15511, China National Energy Administration standard NB/T 33001, NB/T 33002, NB/T 33008.1 and NB/T 33008.2, China National standard GB/T 18487.1 and GB/T 27930, and Interoperability test specifications of electric vehicle conductive charging. It helps to shorten the product testing process for product line, quality assurance and R&D.

■ Test Function-For Type 1 (SAE J1772 1-Phase)

1. Hi-pot Test Function (for UL2594)
2. GND Continuously Test (for UL2594)
3. Control Pilot Signal Test State A
4. Control Pilot Signal Test State B2
5. Control Pilot Signal Test State C
6. Current Capacity Test
7. Disconnect Switch S2 Test
8. Coupler Disconnection Test
9. Over Current Protection Test
10. CCID Test (for UL2231)

■ Test Function- For Type 2 (IEC 62196-2 3-Phase)

1. Hi-pot Test Function (for UL2594)
2. GND Continuously Test (for UL2594)
3. Control Pilot Signal Test State A
4. Control Pilot Signal Test State B2
5. Control Pilot Signal Test State C
6. Current Capacity Test
7. Disconnect Switch S2 Test
8. Coupler Disconnection Test
9. Over Current Protection Test
10. CCID Test (for UL2231)

Advantages of Preen's EVSE ATS

Comparing to other EV charger testing systems on the market, Preen's testing system not only complies with international regulations, it also provides automation testing for insulation, voltage-withstand and leakage current, greatly improved the efficiency of product line and quality assurance process.

EV Charger Testing Items	Preen	Brand A	Brand B
Insulation Test	V	-	-
Ground Continuity Test	V	-	-
Hipot Test	V	-	-
Touch Current Test	V	-	-
Current Capacity Test	V	V	-
Disconnect Input / Output Switch Test	V	V	V
Coupler Disconnection Test	V	V	V
Input Characteristics Test	V	V	V
Output Characteristics Test	V	V	V
Control Pilot Test (State A to F)	V	V	V
Over Current Protection Test	V	V	V
Charging Circuit Interrupting Device (CCID) Test	V	V	V
Emergency Stop Test	V	V	V
Data Record and Export Data	V	V	V

V Yes - No

EVSE Burn-In ATS

Electric Vehicle Supply Equipment Burn-In ATS

QR Code



Product
Info.



Product
Video

Tests up to **10** Chargers
with Just **1** AC Source



The EVSE Burn-In ATS is specifically designed to conduct burn-in and temperature rise tests on multiple EV chargers. This system could test multiple single-phase and three-phase EV chargers, significantly boosting testing efficiency. The system's core functionality is to ensure product adherence to international charging standards, including SAE J1772, IEC 62196, GB/T 20234, and NACS.

Beyond production lines, the Preen EVSE Burn-In ATS proves valuable in research and development by facilitating performance evaluation of new EV charger designs. This comprehensive testing approach guarantees the reliability and stability of EV chargers.

Product Features

- Complied with national regulations: SAE J1772, IEC 62196-2, GB/T 20234.2, and NACS.
- Through series connection, users could test multiple chargers at once, which reduces power consumption.
- Customized test items to meet various testing requirements.
- Data monitoring and adjusting for each charger.
- Abnormal charger bypass for stable system operation.

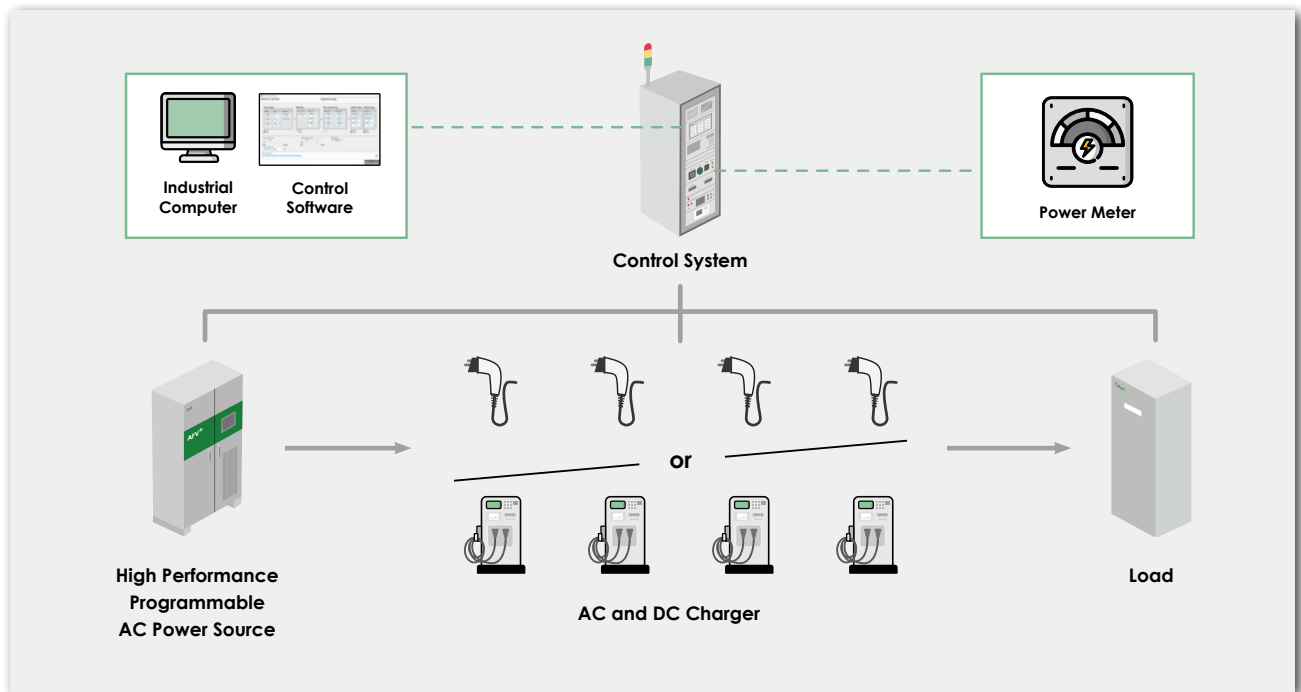
Key Advantages

The EVSE Burn-In ATS simulates the charging process of EV chargers for long-duration, high-load burn-in tests, validating reliability, durability, and compliance with international standards. The system features a flexible structure that allows customers to customize equipment, instruments, meter settings, test recording, and report exporting.

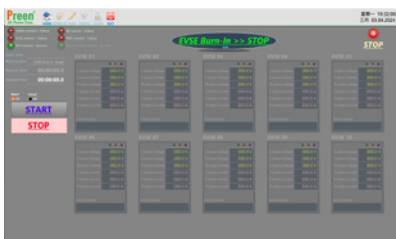


Structure of EVSE Burn-In ATS

The EVSE Burn-In ATS simulates various charging scenarios to conduct thorough burn-in and temperature rise tests on EV chargers, including tests for current capacity. During the current capacity test, the charger undergoes precise evaluation to ensure stability and performance under different current loads. Through these simulations, the system could comprehensively test the durability and reliability of chargers, ensuring product's stability before they reach the market.



Intuitive Software Platform



Preen's EVSE Burn-In ATS testing software is tailored for EV charger burn-in tests. Featuring a flexible design structure, this system is suitable for diverse testing requirements. The software could accurately simulate various EV charging scenarios, conduct automated burn-in tests, monitor parameters, and effortlessly store data. It efficiently generates detailed test reports, each corresponding to the barcode of the respective charger.

QR Code



Product Info.



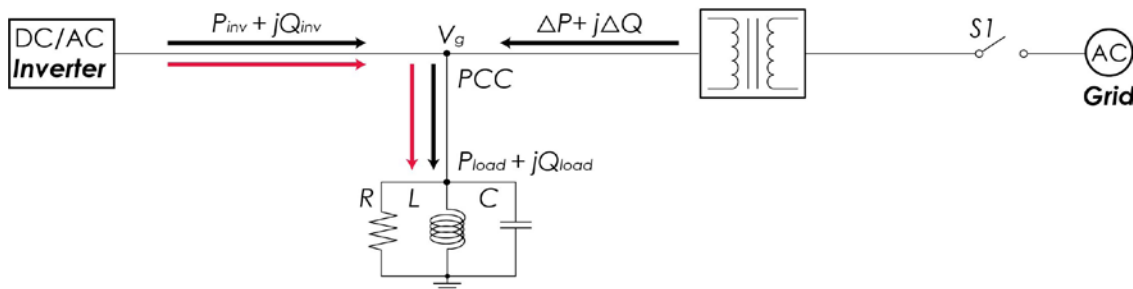
As of today, power systems are gradually moving towards a distributed power generation architecture. The popularity of renewable energy sources such as solar and wind power has made “islanding” one of the most challenging projects in grid protection. If the inverter fails to stop supplying power immediately when the grid is out of power, it may cause danger to maintenance personnel and equipment, therefore, accurate detection and response are crucial.

In response to this challenge, Preen Power has developed a professional-grade RLC Load simulator that can simulate various islanding conditions which comply with international standards

such as IEEE 1547 and 1547.1, including voltage and frequency drift, reactive power imbalance, power full matching and other extreme test scenarios.

In addition, its modular design supports multiple unit operation with parallel connection and can be easily expanded to 30kW~2000kW, when pairing with PAS/ADG series and automation software platform, it will become a complete anti-islanding test solution. This system is widely used in solar inverters, microgrid equipment and energy storage system testing, providing the industry with a high-efficiency, high-precision and highly reliable protection verification platform.

Key Conditions for Accurate Simulation of Islanding



The ARLC series can simulate a variety of different load conditions to effectively correspond to the islanding scenarios required by IEEE 1547, including:

- $\Delta P = 0 \cdot \Delta Q \neq 0$: Simulate inductive or capacitive loads to generate frequency drift
- $\Delta P \neq 0 \cdot \Delta Q = 0$: Simulate resistive load conditions that result in voltage shifts
- $\Delta P \neq 0 \cdot \Delta Q \neq 0$: Simulate voltage and frequency synchronizing and drifting
- $\Delta P = 0 \cdot \Delta Q = 0$: Emulate completely balanced load and inverter, making islanding virtually undetectable

Through the simulations above, The ARLC series ensures anti-islanding protection function can still be properly activated under critical conditions, effectively improving the safety of the power grip.

Modular Design with Flexible Parallel Expansion

Preen Power's ARLC series not only has excellent simulation capabilities, but also emphasizes flexibility and expandability, allowing your test equipment to be flexibly adjusted according to test needs. Its parallel design has the following advantages:

Flexible Capacity Expansion:

Each unit provides 250kW output, and can be quickly expanded to 500kW, 750kW, or higher load capacity by connecting multiple units in parallel. It can cope with test projects of different scales without replacing the entire set of equipment.

Plug-and-Play, Rapid Deployment:

Modular design with standardized interfaces enables faster multi-unit parallel connection and simplified setup, reducing installation and test preparation time.

Centralized Control with Synchronized Adjustment:

The PLC and IPC control architecture enables unified control and adjustment of paralleled units through a single operating interface, improving operational efficiency and ensuring consistent performance.

Lower Initial Investment Risk:

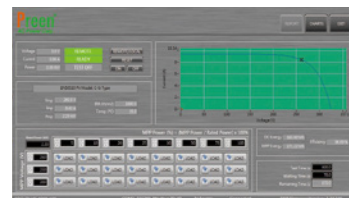
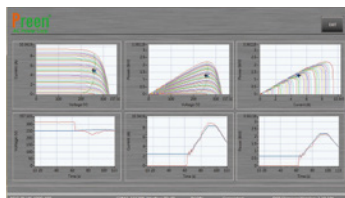
Customers can start with basic capacity to meet current needs, then easily add units to expand testing capability as requirements grow, avoiding high one-time investment.

Adaptable to Multiple Test Scenarios:

The system flexibly adjusts load configurations for various applications, including single inverter testing, anti-islanding verification, multi-point output validation, and high-power grid-connected testing.

Solar Simulation and Automated Test Integration System

Preen integrates RLC load modules with PAS & ADG series AC/DC power supplies to deliver a comprehensive solar simulation and testing platform. The system provides multiple automated testing capabilities through a software-controlled interface with graphical display, effectively addressing diverse testing needs including static and dynamic MPPT testing, anti-islanding test, and EN50530-compliant simulation validation.



Feature

✓ Modular Integration Architecture:

Complete integration between RLC Load and AC/DC sources enables simulation of various grid and load scenarios.

✓ Multi-Function Test Interface:

Software platform supports multi-window control, providing data trend charts, real-time parameter monitoring, and automated test report evaluation.

✓ Solar Array Simulation Function (SAS):

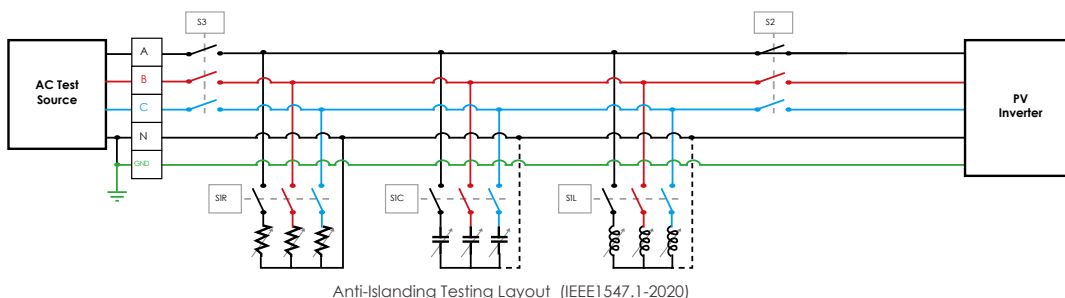
Provides I-V curve simulation and MPPT testing capabilities with automatic multi-curve generation and support various international testing standards.

✓ Compliance with Standard Test Specifications:

Supports EN50530 and other international standards to ensure equipment performance that meets industry specifications.

✓ Simplified Parameter Setup:

Features quick test parameter configuration through an intuitive interface, ideal for R&D, quality assurance, and certification applications.



User-Friendly Graphical Interface Software

Solar Inverter Testing

This testing platform simulates and validates the dynamic response and control capabilities of photovoltaic inverters. Through integration of DC/AC power sources and RLC load modules, it effectively simulates operating conditions under various grid scenarios while monitoring key performance indicators to ensure inverter stability and efficiency in real-world applications.

RLC Load Control Testing

This simulation system delivers high-precision three-phase RLC control for testing power equipment response under variable load conditions. The graphical interface enables easy phase-by-phase load configuration with real-time monitoring of power parameters and protection mechanisms, optimizing design processes and enhancing testing efficiency.

Anti-Islanding Testing

The system conducts anti-islanding testing in accordance with IEEE 1547 standards, ensuring inverters disconnect promptly during grid power loss. Fully automated processes with integrated report generation significantly enhance testing efficiency and accuracy, providing a critical element in renewable energy equipment certification.

Anti-Islanding Test Configuration (IEEE1547.1-2020)

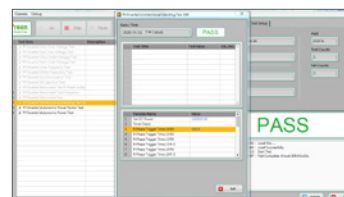
This test configuration validates distributed power system capability to correctly detect and terminate output during grid outage conditions. Using variable RLC loads and control switches configured to international standards, the system simulates actual islanding scenarios to support manufacturer compliance testing requirements.



Solar Inverter Control Test System Interface



RLC Load Control Test System Interface



Anti-Islanding Test System Interface

ORDERING INFORMATION :

RLC Series:

Model Number	Description
ARLC-30	Automated RLC Load Bank for Anti-Islanding Test (30KVA)
ARLC-60	Automated RLC Load Bank for Anti-Islanding Test (60KVA)
ARLC-120	Automated RLC Load Bank for Anti-Islanding Test (120KVA)
ARLC-250	Automated RLC Load Bank for Anti-Islanding Test (250KVA)
ARLC-001	RS-485

SPECIFICATIONS

Automated RLC Load Bank For Anti-Islanding Test

Model	ARLC-30	ARLC-60	ARLC-120	ARLC-250
System Configuration	The main circuit includes Resistive (R), Inductive (L), and Capacitive (C) Loads. Each is independently controlled by switches and managed via computer software.			
Resistive Load	3 Phase : 1.5w~30kw Adjustable	3 Phase : 1.5w~60kw Adjustable	3 Phase : 3w~120kw Adjustable	3 Phase : 15w~250 Adjustable
Inductive Load	3 Phase : 1.5va~30Kva Adjustable	3 Phase : 1.5va~60Kva Adjustable	3 Phase : 3va~120 Kva Adjustable	3 Phase : 15va~250 Kva Adjustable
Capacitive Load	3 Phase : 1.5var~30kvar Adjustable	3 Phase : 1.5var~60kvar Adjustable	3 Phase : 3var~120kvar Adjustable	3 Phase : 15var~250 Kvar Adjustable
Load Steps	0.5va	0.5va	1va	10va
Load Input Voltage	3 Phase A: 220/380V B: 120/208V C: 277/480V D: 230/400V			
Frequency	50hz or 60hz			
Phase Voltage Measurement	Measurement Range : 0-300V ; Accuracy : $\pm 0.2\%$; Resolution : 0.1V			
Current Measurement	Measurement Range : 0-100a ; Accuracy : $\pm 0.2\%$; Resolution : 0.1a	Measurement Range : 0-100a ; Accuracy : $\pm 0.2\%$; Resolution : 0.1a	Measurement Range : 0-500a ; Accuracy : $\pm 0.2\%$; Resolution : 0.5a	Measurement Range : 0-1000a ; Accuracy : $\pm 0.2\%$; Resolution : 1.0a
Active Power Range	Active power is measured from 0 to 30 kW, with $\pm 1\%$ accuracy and 0.5 W resolution.	Active power is measured from 0 to 60 kW, with $\pm 1\%$ accuracy and 0.5 W resolution.	Active power is measured from 0 to 120 kW, with $\pm 1\%$ accuracy and 1.0 W resolution.	Active power is measured from 0 to 250 kW, with $\pm 1\%$ accuracy and 10.0 W resolution.
Reactive Power Range	Active power is measured from 0 to 30 kvar, with $\pm 1\%$ accuracy and 0.5 W resolution.	Active power is measured from 0 to 60 kvar, with $\pm 1\%$ accuracy and 0.5 W resolution.	Active power is measured from 0 to 120 kvar with $\pm 1\%$ accuracy and 1.0 W resolution.	Active power is measured from 0 to 250 kvar, with $\pm 1\%$ accuracy and 10.0 W resolution.
Wiring Configuration	three-phase four-wire system Or three-phase three-wire system			
Control Mode	Automated control and load application are enabled through a remote pc. RLC load discharge is continuously adjustable for precise simulation.			
Interfaces	Ethernet /RS-485(Opt.)			
Storage Device	Measurement data transfers directly to a pc, with analysis software supporting automatic recording and storage.			
Cooling System	Forced-Air Cooling			
Operating Temperature	- 10 ~ +40°C			
Operating Power Supply	AC Single-phase 220V or 120V/50Hz or 60Hz			
Maximum Power Consumption	400 W	600 W	1600 W	3200 W
Voltage Range	0v-310V			
Dimensions (H x W x D)	1804 x 800 x 700 mm (including wheels)	1804 x 1200 x 1700 mm (including wheels)	R:1804 x 1200 x 1700 L:1804 x 1200 x 1700 C:1804 x 800 x 1700 mm (including wheels)	R:1800 x 1200 x 1700 L:1800 x 1200 x 1700 C:1804 x 800 x 1700 mm
	71 x 31.4 x 27.5 inch (including wheels)	71 x 47.2 x 66.9 inch (including wheels)	R:71 x 47.2 x 66.9 L:71 x 47.2 x 66.9 C:71 x 31.4 x 66.9 inch (including wheels)	R:70.8 x 47.2 x 66.9 L:70.8 x 47.2 x 66.9 C:71 x 31.4 x 66.9 inch
Weight	approx. 860 kg	approx. 1430 kg	approx. 2400 kg	approx. 4000 kg
	approx. 1895.9 lbs	approx. 3152.6 lbs	approx. 5291 lbs	approx. 8818.5 lbs

AFV-P series

High Performance Programmable AC Power Source

Interfaces

Standard **RS-232** **RS-485** **Ethernet** **USB**

Option **GPIO** **Analog**

QR Code



Product
Info.



Product
Video



Output Power
800VA~6kVA



RoHS
Compliant

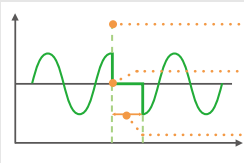


Preen's AFV-P series is a programmable AC power source with DC output and precision measurement. This compact power source provides clean power with THD less than 0.3% at 5-100Hz and it delivers output voltage of 0-350V and frequency of 15-1000Hz (opt. 5-2000Hz). It is ideal for commercial, defense and aerospace test applications from design verification, quality assurance, ATE to mass production.

AFV-P series comprises measurement features of rms voltage, rms current, true power, apparent power, power factor, crest

factor, reactive power and etc. Its 5" touch screen with rotary knob allows quick adjustments and configurations of voltage, current and frequency. Total 1200 test steps in 50 built-in memories and transient generation functions allow simulations of voltage variations, surges, drops and frequency disturbances. Users can set start and end phase angle among 0-359 degrees, and remotely control AFV-P series via standard interfaces. Free control software and LabVIEW driver are available for easy programming and remote control.

Power Line Disturbance Simulation (Transient Simulation)



Transient Site:

The transient site can be set from 0° to 359°

Transient Voltage:

The Transient voltage can be set from 0V to 350V

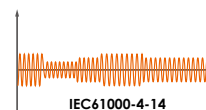
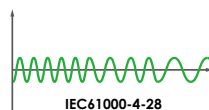
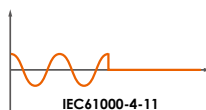
Transient Time:

Transient dwell time options from 0.5ms to 999.9ms

Through the Transient feature, user can have more control over the waveform by inserting disturbance at user-defined locations with user-defined drop/rise range. This is a useful feature to simulate different pre-compliance tests and various types of power line disturbance, such as surge, sag, spike and dropout, for immunity tests.

KEY FEATURE

AC&DC Power Simulation for IEC-61000 Pre-Compliance Testing

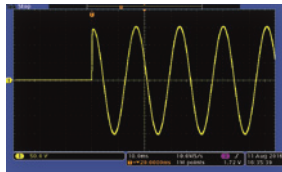


The AFV-P series is a high-performance AC source designed to streamline product development process. With its ability to precisely simulate a wide range of power quality disturbances defined in IEC standards, such as IEC-61000-4-11, IEC-61000-4-14, and IEC-61000-4-28, the AFV-P series ensures products meet regulatory requirements. Its fast response, high accuracy, and low THD make it the ideal choice for pre-compliance testing.

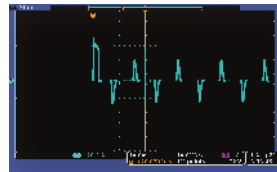
High Inrush Current EUT & Start / End Angle Setting



Switching Power Supply



90° Start Angle



Inrush Current for 90° Start Angle

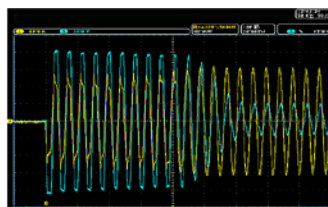
For switching supply (rectified load), AFV-P series provides standard inrush current as 4.5 times of max. output current and the AFV-P-600 and AFV-P-1500 have optional 9 times of max. output current, which makes AFV-P series the lowest capacity in the market that can achieve the highest inrush current. Moreover, the AFV-P series allows users to set the start angle/end angle for the product output, which is suitable for testing switching power supplies.*

*Available at Q4 2025

Motor Type Testing



Motor



Capable to sustain high start inrush current generated by motor or compressor.

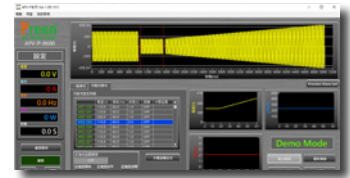
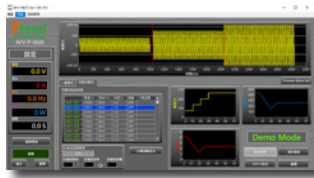


Video

AFV-P series can provide up to 4.5/opt. 9 times* of peak current from its maximum rated current, which is ideal for inrush current tests, such as electric motor tests. Likewise, AFV-P series is capable to sustain high start inrush current generated by motors or compressors. The user doesn't have to buy high-capacity power supplies just in keeping with the high inrush current characteristic of the loads. Reduce the costs and save the space.

*Available at Q4 2025

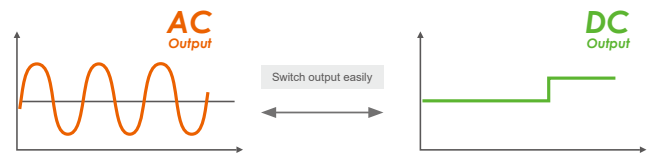
Multiple Communication Interfaces & Control Software



The AFV-P series is equipped with communication interfaces of RS232, RS485, Ethernet and USB, and only GPIB and Analog are optional interfaces. AFV-P series also provides control software with comprehensive programming features and LabView driver, which help users to easily control the AC source without further needs of programming.

AC + DC Output

AFV-P series not only provide AC output to simulate real grid conditions, but can also generate DC output based on user's settings. It is an ideal cost-effective power testing solution for R&D and certification laboratories.



High Input Power Factor

The AFV-P series is equipped with an active Power Factor Correction (PFC) circuit, raising the input power factor up to 0.98, which significantly reduces reactive current and harmonic distortion. This minimizes interference to the power grid and other connected equipment.

The PFC function not only improves energy utilization efficiency but also helps maintain a stable and clean power supply, ensuring reliable test results and measurement accuracy.

Input Power (Apparent Power) Comparison

PF = 0.98 vs. PF = 0.7



Conventional
AC Sources

10.7kVA 46.5A

PF = 0.7, η = 0.8



NEW AFV-P

7.2kVA 31.3A

PF = 0.98, η = 0.85

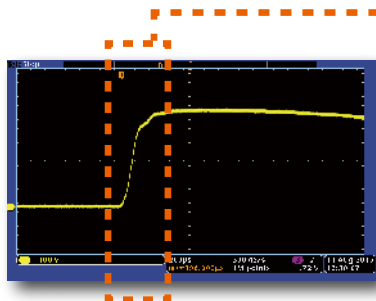
3.5kVA

SAVE 32.7% Apparent power

For a 6 kVA AFV-P model (single-phase + neutral + ground, 230 V input), when the power factor (PF) improves from 0.7 to 0.98 and efficiency rises from 0.8 to 0.85, the input power demand can be reduced by up to 32.7%, achieving substantial energy-saving benefits.

PF up to
0.98

Fast Response & High Stability



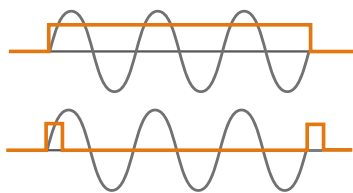
Response Time
< 300 μ s

THD
< 0.3%

Output Frequency
5-2000HZ

AFV-P series is a high performance AC power source with fast response time, low total harmonic distortion and tight voltage regulation. With its technically advanced features, users can easily simulate power line disturbance, such as sags, surges, dropouts and spikes.

Synchronized Signal

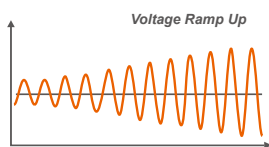


5V DC Synchronized Signal

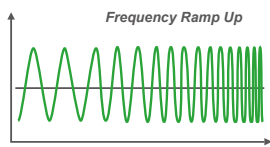
AFV-P series provides two types of synchronized signal. It can either deliver a 5V DC signal continuously when the product output is on or deliver a 5V DC pulse signal every time there is a change on the product output. This feature makes AFV-P series an ideal AC source when applying with automatic test systems.

Programmable Simulation Functions: Step & Ramp Features

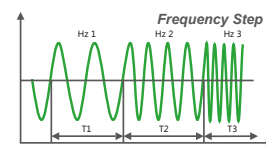
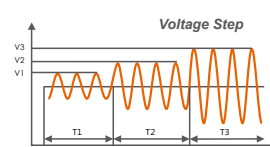
Ramp Feature



Frequency Ramp Up

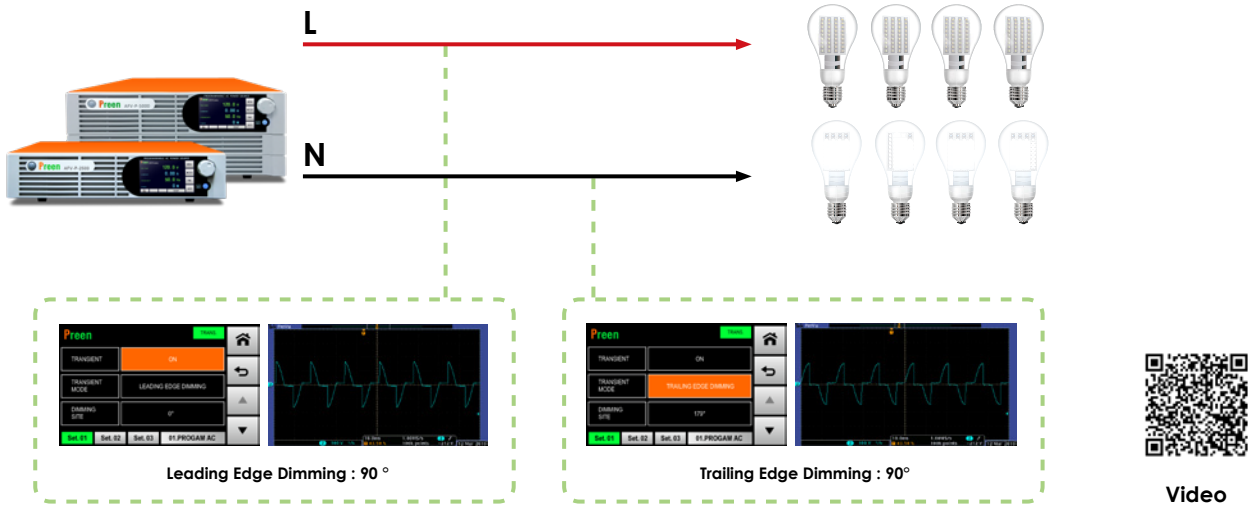


Step Feature



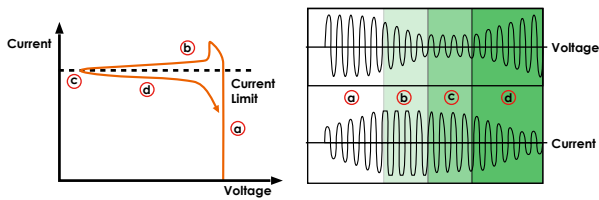
Ramp and Step feature allows users to define slew rate of voltage and frequency at each Step. Users can set the rise/fall time, time unit and voltage/frequency change between Steps to create a wide range of waveform. Additionally, Ramp feature can effectively reduce the inrush current by simulating soft start for motor or compressor startup.

LED TRIAC Dimmer (Opt.)



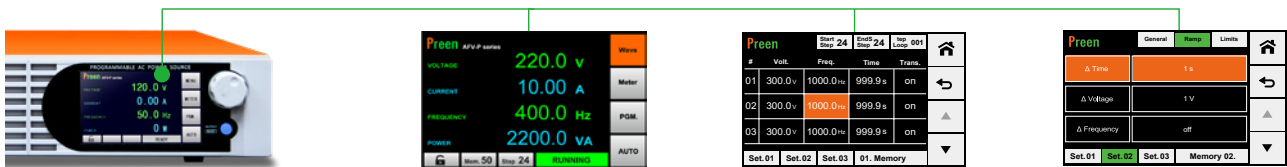
AFV-P series provides optional LED TRIAC Dimmer function, which can simulate output of TRIAC dimmer. The user can select whether to perform LEADING EDGE DIMMING or TRAILING EDGE DIMMING via HMI. Compared with traditional TRIAC dimming, the output waveform can be controlled more accurately and effectively.

Over Current Foldback



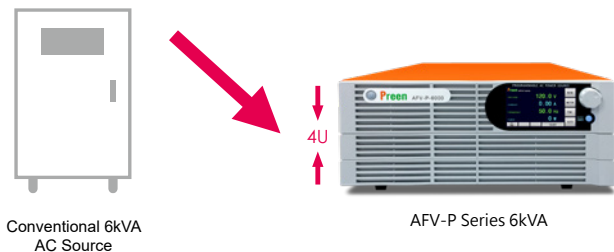
When it comes to over current, AFV-P series offers more than just shutdown protection. Over current foldback enables AFV-P series to maintain the output current at the rated current and correspondingly decrease the output voltage as the load impedance increases. It is an extended protection or an alternative to provide constant current for EUT.

Intuitive Touch Screen Control



To create a complex sequence on the HMI is not a difficult task for AFV-P series. The 5 inches touch screen provides users a clear display and an easy set up. AFV-P is also equipped with a rotary knob for better fine tune adjustments.

Light Weight Design

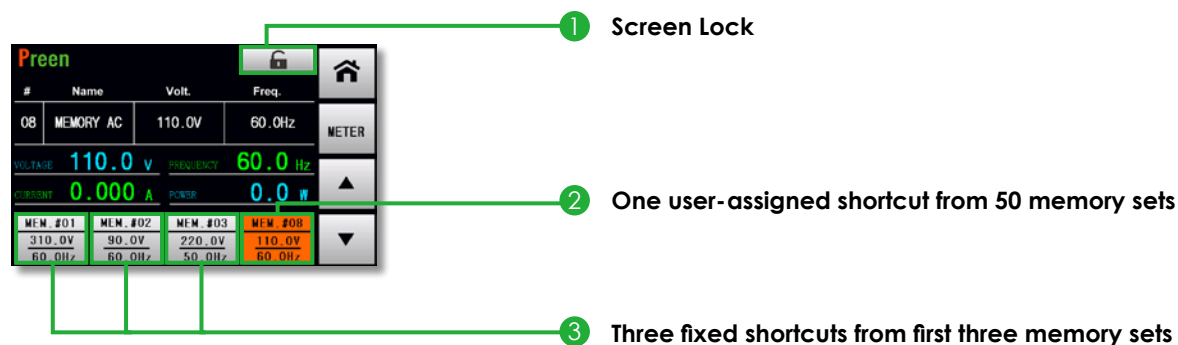


**1/3
Smaller**

**Lighter
50%**

The new generation of AFV-P features a lightweight design, reducing its weight significantly from 61.5 kg to just 31.3 kg. And industry-leading power density and rack-mount type design for easy system integration. 3000VA only comes in 2U and 6000VA is only in 4U.

Shortcuts of Output Memory Set (BASIC Mode)



AFV-P series can display 3 shortcuts of Memory Sets in BASIC Mode, and the voltage and frequency setting of each Memory Sets can be clearly read. The user can quickly switch the output by selecting the shortcuts. Also, the Screen Lock function is provided for preventing operators from accidentally changing shortcuts during output and causing DUT damage.

SPECIFICATIONS

AFV-P Series Single-Phase Output (800VA-6kVA)

Model		AFV-P-800		AFV-P-1500		AFV-P-3000		AFV-P-6000	
INPUT									
Phase		1Ø / 2 Wire + G							
Voltage		90-264VAC				180-264VAC			
Frequency		47-63 Hz							
Max. Current		12A		20A		20A		40A	
Power Factor		≥ 0.98 (Max. Power)							
OUTPUT									
Power	W	800W		1500W		3000W		6000W	
Phase		1Ø / 2 Wire + G							
Voltage Ranges		0-175Vrms / 0-350Vrms, user selectable							
Voltage Accuracy		± (0.5 % of setting + 0.1% F.S.)							
Voltage Resolution		0.1Vrms							
Frequency ^{*1}		A : 5-2000Hz , B : 15-1000Hz							
Frequency Accuracy		±0.02%							
Frequency Resolution		0.1Hz, 1Hz							
Max. Current (RMS) ^{*3}		6.4A/3.2A		12A/6A		24A/12A		48A/24A	
Max. Current (Peak)		28.8A/14.4A		54A/27A		108A/54A		216A/108A	
Total Harmonic Distortion (THD)		≤ 0.3% at 5-500Hz , ≤ 0.6% at 501-1000Hz ≤ 1.5% at 1001-1500Hz, ≤ 2% at 1501-2000Hz (Resistive Load)				≤ 0.3% at 5-100Hz , ≤ 0.5% at 101-500Hz , ≤ 0.6% at 501-1000Hz≤ 1.5% at 1001-1500Hz, ≤ 2% at 1501-2000Hz (Resistive Load)			
Line Regulation		± 0.1V							
Load Regulation		≤ 0.07% F.S. (Resistive Load)							
Response Time		≤ 300µs							
Crest Factor		≥ 3							
Inrush Current		≥ 4.5 times of max.output current (RMS)							
DC OUTPUT									
Power		768W		1440W		2880W		5760W	
Voltage Ranges		0 - 240V / 0 – 480V							
Max. Current		3.2A/1.6A		6A/3A		12A/6A		24A/12A	
Ripple & Noise (RMS)		≤ 0.15%							
MEASUREMENT									
Voltage Range		0-480Vrms							
Voltage Accuracy		±(0.2% of reading + 5 counts)							
Voltage Resolution		0.1V							
Frequency Range		5-2000Hz							
Frequency Accuracy		±0.1Hz at 5.0-500Hz, ±0.2Hz at 501-2000Hz							
Frequency Resolution		0.1Hz							
Current Range		Hi: 1-12A / Lo: 0.005-1.2A				Hi: 2-24A / Lo: 0.005-2.4A		Hi: 0.05A-48.00A	
Current Accuracy ^{*2}		±(1% of reading + 5 counts) at 5.0-500Hz, ±(1% of reading + 10 counts) at 501-2000Hz							
Current Resolution		Hi: 0.01A / Lo: 0.001A						Hi: 0.01A	
Peak Current Range		0-54A				0-108A		0-216A	
Peak Current Accuracy		±(1% of reading + 5 counts) at 5.0-500Hz, ±(1% of reading + 10 counts) at 501-2000Hz						± (1% F.S.+ 5 counts)	
Peak Current Resolution		0.1A							
Power Range		Hi: 100-1500W / Lo: 0-120W				Hi: 200-3000W/ Lo: 0-240W		Hi: 0-6000W	
Power Accuracy		±(2% of reading + 10 counts) @ 5-500Hz, ±(2% of reading + 15 counts) @ 501-2000Hz							
Power Resolution		Hi: 1W / Lo: 0.1W						Hi: 1W	
GENERAL									
Efficiency		≥ 80% at max. power		≥ 82% at max. power		≥ 85% at max. power			
Protection		OVP, OCP, LVP, OPP, OTP, RCP, Fan Fail and AMP Fail, VIN error, PFC error, DCB error, PWR OTP							
Remote Interface		Standard: RS232 / RS485 / Ethernet / USB / PLC Remote In&Out, Option:GPIB / Analog							
Over Current Foldback		Output Current maintains constant based on the load while output voltage varies							
Output Sync Signal		ON, Event for Voltage or Frequency Change (Output signal 5V , BNC type)							
Memories		50 Memories & 1200 Steps (24 Steps/Memory) 50 Memories, 4 Shortcuts (BASIC Mode)							
Operating Temperature		0°C~40°C							
Dimensions(HxWxD)		89 x 442 x 495mm				89 x 442 x 650mm		176 x 442 x 665mm	
		3.5 x 17.4 x 19.5inch				3.5 x 17.4 x 25.6inch		6.9 x 17.4 x 26.2inch	
Weight		approx. 12.9kg		approx. 13.2kg		approx. 17.2kg		approx. 31.3kg	
		approx. 28.44lbs		approx. 29.1lbs		approx. 37.92lbs		approx. 69lbs	

* 1 For type A: 5-2000Hz, please contact us for output power characteristic curve. * 2 AFV-P-3000 is ±(1% F.S. + 5 counts)

* 3 Reference voltage 125Vac/250Vac. For output higher than 125Vac/250Vac, output current is calculated by P=VI.

* 4 Reference voltage 240Vdc/480Vdc. *All specifications are subject to change without notice.

SPECIFICATIONS

AFV-P Series Single-Phase Output (600VA-5kVA)

Model		AFV-P-600		AFV-P-1250		AFV-P-2500		AFV-P-5000		
INPUT										
Phase		1Ø / 2 Wire + G								
Voltage		98-132VAC / 196-264VAC				196-264VAC(opt. 175-235VAC)				
Frequency		47-63 Hz (opt. 400Hz ³)								
Max. Current		10A		20A		20A		40A		
OUTPUT										
Power		VA	600VA		1250VA		2500VA		5000VA	
		W	500W		1000W		2000W		4000W	
Phase		1Ø / 2 Wire + G								
Voltage Ranges		0-155Vrms / 0-310Vrms, user selectable								
Voltage Accuracy		± (0.5 % of setting + 0.1% F.S.)								
Voltage Resolution		0.1Vrms								
Frequency ¹		A : 5-2000Hz , B : 15-1000Hz								
Frequency Accuracy		±0.02%								
Frequency Resolution		0.1Hz, 1Hz								
Max. Current (RMS)		5A / 2.5A		10A / 5A		20A / 10A		40A / 20A		
Max. Current (Peak)		22.5A / 11.3A		45A / 22.5A		90A / 45A		180A / 90A		
Total Harmonic Distortion (THD)		≤ 0.3% at 5-100Hz , ≤ 0.5% at 101-500Hz , ≤ 0.8% at 501-1000Hz, ≤ 1.5% at 1001-1500Hz, ≤ 2% at 1501-2000Hz (Resistive Load)								
Line Regulation		± 0.1V								
Load Regulation		≤ 0.07% F.S. (Resistive Load)								
Response Time		≤ 300µs								
Crest Factor		≥ 3								
Inrush Current		≥ 4.5 times of max.output current (RMS)								
DC OUTPUT										
Power		500W		1000W		2000W		4000W		
Voltage Ranges		0-210V / 0 – 420V								
Max. Current		2.5A / 1.25A		5A / 2.5A		10A / 5A		20A / 10A		
Ripple & Noise (RMS)		≤ 0.15%								
MEASUREMENT										
Voltage Range		0-420Vrms								
Voltage Accuracy		±(0.2% of reading + 5 counts)								
Voltage Resolution		0.1V								
Frequency Range		5-2000Hz								
Frequency Accuracy		±0.1Hz at 5.0-500Hz, ±0.2Hz at 501-2000Hz								
Frequency Resolution		0.1Hz								
Current Range		Hi: 1-12A / Lo: 0.005-1.2A				Hi: 2-24A / Lo: 0.005-2.4A		Hi: 0.05A-48.00A		
Current Accuracy ²		±(1% of reading + 5 counts) at 5.0-500Hz, ±(1% of reading + 10 counts) at 501-2000Hz								
Current Resolution		Hi: 0.01A / Lo: 0.001A						Hi: 0.01A		
Peak Current Range		0-45A				0-90A		0-180A		
Peak Current Accuracy		±(1% of reading + 5 counts) at 5.0-500Hz, ±(1% of reading + 10 counts) at 501-2000Hz						± (1% F.S.+ 5 counts)		
Peak Current Resolution		0.1A								
Power Range		Hi: 100-1200W / Lo: 0-120W				Hi: 200-2400W/ Lo: 0-240W		Hi: 0-4800W		
Power Accuracy		±(2% of reading + 10 counts) @ 5-500Hz, ±(2% of reading + 15 counts) @ 501-2000Hz								
Power Resolution		Hi: 1W / Lo: 0.1W						Hi: 1W		
GENERAL										
Efficiency		≥ 77% at max. power		≥ 80% at max. power						
Protection		OVP, OCP, LVP, OPP, OTP, RCP, Fan Fail and AMP Fail								
Remote Interface		Standard: RS232 / RS485 / Ethernet / USB / PLC Remote In&Out, Option:GPIB / Analog								
Over Current Foldback		Output Current maintains constant based on the load while output voltage varies								
Output Sync Signal		ON, Event for Voltage or Frequency Change (Output signal 5V , BNC type)								
Memories		50 Memories & 1200 Steps (24 Steps/Memory) 50 Memories, 4 Shortcuts (BASIC Mode)								
Operating Temperature		0°C~40°C								
Dimensions(HxWxD)		89 x 442 x 495mm				89 x 442 x 650mm		176 x 442 x 665mm		
		3.5 x 17.4 x 19.5inch				3.5 x 17.4 x 25.6inch		6.9 x 17.4 x 26.2inch		
Weight		16kg		20kg		31.3kg		61.5kg		
		35.3lbs		44.1lbs		69lbs		135.6lbs		

* 1 For type A: 5-2000Hz, please contact us for output power characteristic curve. * 2 AFV-P-2500 is ±(1% F.S. + 5 counts) * 3 Please contact us for specifications.

* All specifications are subject to change without notice.

ORDERING INFORMATION

AFV-P Series Single-Phase Output (800VA-6kVA)

Model Number	Description
AFV-P-800A	High Performance Programmable AC Power Source(800VA/350VAC/ 5-2000Hz)
AFV-P-1500A	High Performance Programmable AC Power Source(1500VA/350VAC/5-2000Hz)
AFV-P-3000A	High Performance Programmable AC Power Source(3000VA/350VAC/5-2000Hz)
AFV-P-6000A	High Performance Programmable AC Power Source(6000VA/350VAC/5-2000Hz)
AFV-P-800B	High Performance Programmable AC Power Source(800VA/350VAC/15-1000Hz)
AFV-P-1500B	High Performance Programmable AC Power Source(1500VA/350VAC/15-1000Hz)
AFV-P-3000B	High Performance Programmable AC Power Source(3000VA/350VAC/15-1000Hz)
AFV-P-6000B	High Performance Programmable AC Power Source(6000VA/350VAC/15-1000Hz)

* Please contact us for specifications.

AFV-P Series Single-Phase Output (600VA-5kVA)

Model Number	Description
AFV-P-600A	High Performance Programmable AC Power Source(600VA/310V/5-2000Hz)
AFV-P-1250A	High Performance Programmable AC Power Source(1.25kVA/310V/5-2000Hz)
AFV-P-2500A	High Performance Programmable AC Power Source(2.5kVA/310V/5-2000Hz)
AFV-P-5000A	High Performance Programmable AC Power Source(5kVA/310V/5-2000Hz)
AFV-P-600B	High Performance Programmable AC Power Source(600VA/310V/15-1000Hz)
AFV-P-1250B	High Performance Programmable AC Power Source(1.25kVA/310V/15-1000Hz)
AFV-P-2500B	High Performance Programmable AC Power Source(2.5kVA/310V/15-1000Hz)
AFV-P-5000B	High Performance Programmable AC Power Source(5kVA/310V/15-1000Hz)
AFV-P-T620A	620V Transformer Box (AFV-P-600 & AFV-P-1250)
AFV-P-T620B	620V Transformer Box (AFV-P-2500)
AFV-P-T620C	620V Transformer Box (AFV-P-5000)
AFV-P-T1240A	1240V Transformer Box (AFV-P-600 & AFV-P-1250)
AFV-P-T1240B	1240V Transformer Box (AFV-P-2500)
AFV-P-T1240C	1240V Transformer Box (AFV-P-5000)
AFV-P-001	Interface Card (Ethernet/RS-232&RS-485/USB)
AFV-P-002	GPIB Interface
AFV-P-003	Analog Control Interface
AFV-P-004	RS232 Cable (1.8m / Female to Male)
AFV-P-008	Input Power Cable 1.8M (for 600VA)
AFV-P-009	Input Power Cable 3M (for 1.25kVA/2.5kVA)
AFV-P-010	Input Power Cable 5M (for 5kVA)
AFV-P-011	Input 400Hz (at input 115V/230V $\pm 10\%$)
AFV-P-012	Output 320V (at input 115V/230V $\pm 10\%$)*
AFV-P-013	LED TRIAC Dimmer Simulation
AFV-P-014	Output 9 Times of Inrush Current (AFV-P-600 & AFV-P-1250)
AFV-P-015	IEC-61000-4-11 Simulation
AFV-P-016	Remote Control Box
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-003	RS-232/RS-485 Cable M-F type (2M)

* Please contact us for specifications.

PANEL DESCRIPTION

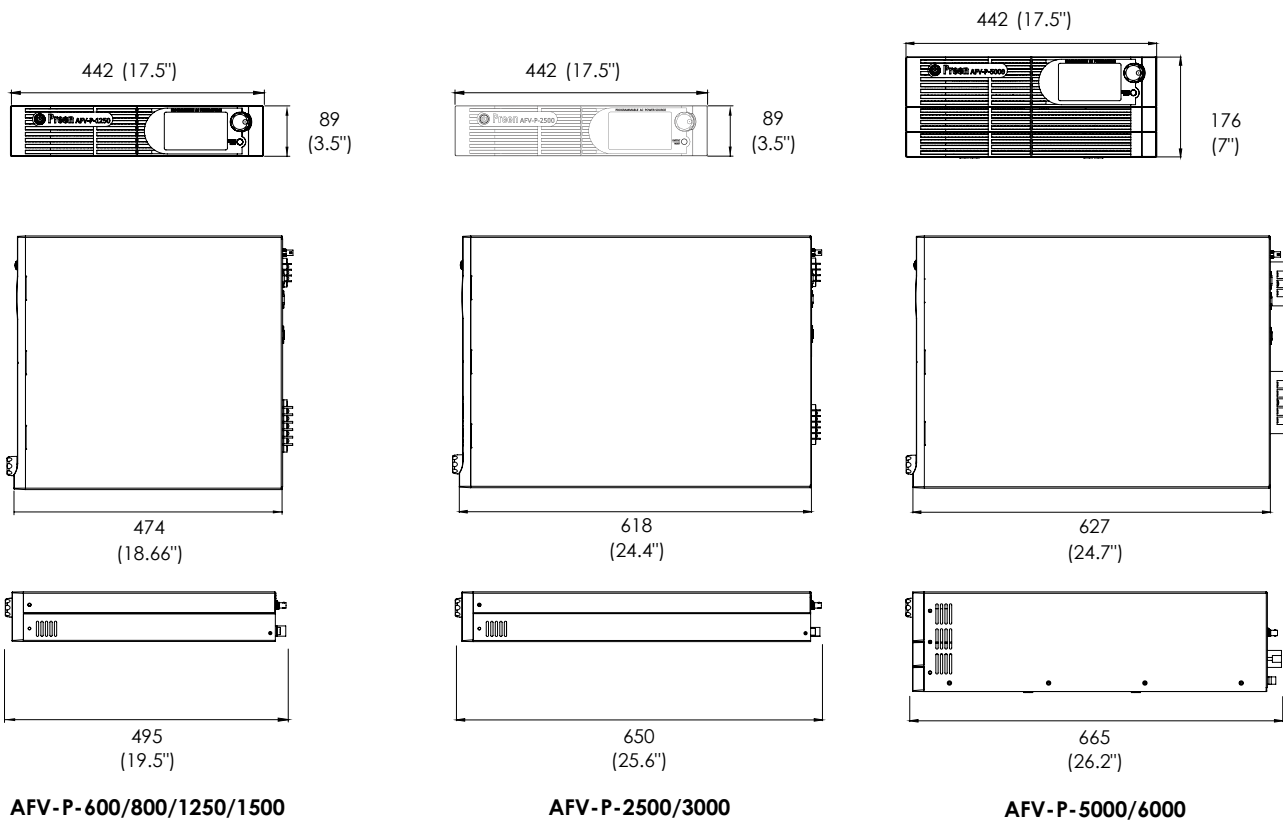


- | | |
|--------------------------|---|
| 1. Power Switch | 9. RS-232 / RS-485 |
| 2. Touch Screen HMI | 10. Ethernet Interface |
| 3. Rotary Knob | 11. Input Voltage Selector |
| 4. Output / Reset Button | 12. PLC Remote In/Out |
| 5. AC Output Socket | 13. Input Socket * |
| 6. Output Terminals | 14. USB Interface (for firmware update) |
| 7. Remote Sense Terminal | 15. Sync. Signal I/O |
| 8. USB Interface | |

* AFV-P-1250, AFV-P-1500, AFV-P-2500, AFV-P-3000, AFV-P-5000, AFV-P-6000 have input terminals.

DIMENSIONS

Unit : mm (inch)



AFV⁺

series

High Power Programmable AC Power Source

Interfaces

Standard **RS-232** **RS-485** **Ethernet**

Option **GPIO** **Analog** **USB**

QR Code



Product
Info.



Product
Video



Output Power

10kVA~2000kVA

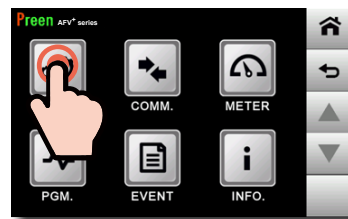
RoHS
Compliant



AFV⁺ series is a high power programmable AC power source utilizing advanced PWM technology to deliver power with THD $\leq$ 0.5% and up to 2000kVA. The output frequency is 45-120Hz with accuracy of $\pm 0.02\%$, and user can select 45-500Hz or 300-840Hz option to expand the frequency. The AFV⁺ series is ideal to simulate different region's voltage and frequency conditions, and can cover applications for home appliance, motor, medical equipment, lighting and EMC laboratory.

AFV⁺ series features STEP and RAMP programmable functions to easily simulate single or continuous output changes. Three phase independent adjustment, optional remote sensing and optional phase angle adjustment all provide convenient control to simulate different kinds of line disturbance.

Intuitive 7"/10.1" Touch Screen



The AFV⁺ series employs 7"/10.1" touch screen to provide intuitive and easy-to-use control and display. Users can quickly access output settings and measurements, including voltage, current, frequency, real power, apparent power, PF and sum of each phase's parameters. Complex sequences and system configurations can also be easily done via the touch screen.

Overload Capability (Opt.)

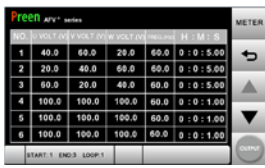
200% 2 sec

150% 5 sec

125% 15 sec

An inductive UUT (Unit under Test), such as motor, compressor or water pump, generates great starting current when activating. As a result, users need to purchase a power supply with much higher capability than the UUT itself. AFV⁺ series has an optional overload capability that can endure/achieve 200% overload capability, easy to activate products of electric motor type that require high activation current.

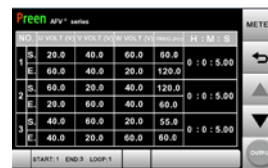
Three Phase RAMP and STEP Independent Adjustment



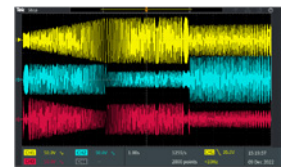
STEP Setting



STEP Waveform Display



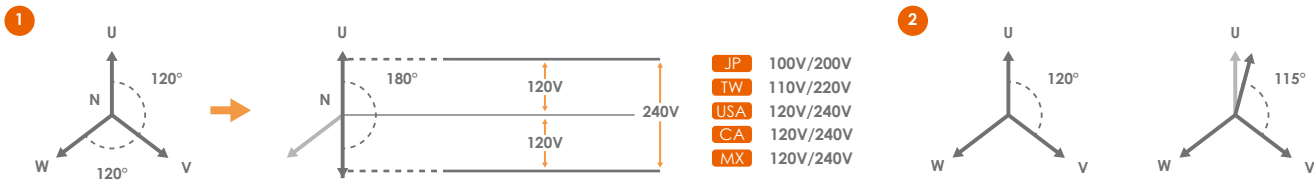
RAMP Setting



RAMP Waveform Display

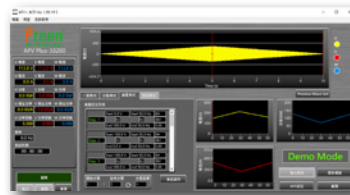
AFV+ series' RAMP/ STEP feature has up to 12 sequences/24 sequences available with parameters of voltage, frequency and time. These features provide an easy method to simulate different kinds of power line disturbance.

Three Phase Angle Adjustment (Opt.)



The AFV+ series offers advanced functionality with the ability to independently set the voltage for each phase and adjust the phase angle between them through the optional Phase Angle Adjustment feature. This allows users to simulate phase shifting, replicating various power conditions. With a single unit, users can conveniently simulate single-phase three-wire or single-phase two-wire power systems, providing versatile testing capabilities for diverse applications.

Remote Control Software: Preen Program



The AFV+ series offers complimentary remote control software, Preen Program. This graphical user interface provides easy settings and user-friendly configurations for users to fully control the unit. The Preen Program includes GENERAL mode and PROGRAMMABLE mode with STEP and RAMP features available. The waveform preview and report functions also greatly enhance convenience for reviewing parameters and results before or after testing.

Remote Interfaces



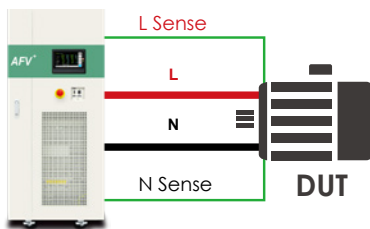
For easy setup and programming, the AFV+ series has standard RS-232/RS-485/Ethernet interface card. User also can select optional GPIB, Analog and USB interfaces for different remote control requirements.

Broader Frequency and Higher Voltage (Opt.)



AFV⁺ series can output optional frequency up to 840Hz to meet the needs of defense and aircraft industries. It can also be used for double frequency test of transformer. Moreover, AFV⁺ series can output up to 400V(L-N)/690V(L-L) or 600V(L-N)/1039V(L-L) (optional) for motors that need higher input voltage.

Remote Sensing



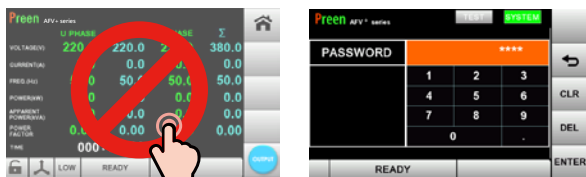
In the factory or laboratory, there is often a certain distance in the configuration of power and load. The Remote Sensing of AFV⁺ series is able to compensate the voltage drop caused by the cable length, so the user can avoid the inconvenience of adjusting the voltage.

EV Charger Application



Before EV charger's ready for installation, it has to do a series of tests to ensure its reliability and safety. For example, input AC characteristic test, control signal test, performance test, safety features etc. are required test items. AFV⁺ series is the ideal power source to perform high quality and stable EV charger testing.

Screen Lock Password Function



The AFV⁺ series features a screen lock password to prevent accidental parameter changes and unauthorized access. This security measure safeguards device settings, ensuring reliable and efficient testing operations. Only authorized personnel with the correct password can unlock the screen and modify device parameters.

SPECIFICATIONS

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

Model		AFV-PLUS-31010	AFV-PLUS-31015	AFV-PLUS-31020	AFV-PLUS-31030	AFV-PLUS-31045	AFV-PLUS-31060	AFV-PLUS-31075	AFV-PLUS-31100	AFV-PLUS-31120	AFV-PLUS-31150
INPUT											
Phase		3Ø / 3Wire + G									
Voltage ^{*1}		380 Vac ±15% (option: 200 Vac, 208 Vac, 400 Vac, or 480 Vac)									
Frequency		47-63Hz									
Max. Current ^{*2}		22A	33A	44A	66A	99A	132A	165A	233A	279.6A	349.5A
Power Factor		≥ 0.9 (Max. Power)									
OUTPUT											
Power	(VA)	10kVA	15kVA	20kVA	30kVA	45kVA	60kVA	75kVA	100kVA	120kVA	150kVA
Phase		1Ø / 2 Wire + G									
Voltage Ranges	Low (V)	0V-155.0V (L-N)									
	High (V)	0V-310.0V (L-N)									
Voltage Resolution		0.1V									
Voltage Accuracy		0.5% F.S.+ 4 counts									
Frequency Range ^{*3}		A : 45-500Hz ; B : 45-120Hz ; C : 300-840Hz									
Frequency Resolution		0.1Hz									
Frequency Accuracy		±0.02% F.S.									
Max. Current (RMS)	Low (A)	83.3A	125A	166.7A	250A	375A	500A	625A	833.3A	1000A	1250A
	High (A)	41.7A	62.5A	83.3A	125A	187.5A	250A	312.5A	416.7A	500A	625A
Line Regulation		< 0.5%									
Load Regulation		≤ 0.5% (Resistive Load)									
Total Harmonic Distortion (THD) ^{*4}		≤ 0.5% (Resistive Load)									
Response Time		≤ 1ms									
Crest Factor		≥ 3									
MEASUREMENT											
Voltage Range		0V-310.0V									
Voltage Resolution		0.1V									
Voltage Accuracy		0.5% F.S.+ 4 counts									
Frequency Range		45.0-840.0Hz									
Frequency Resolution		0.01Hz									
Frequency Accuracy		±0.02% F.S.									
Current Range (RMS)		0 - 83.3A	0 - 125A	0 - 166.7A	0 - 250A	0 - 375A	0 - 500A	0 - 625A	0 - 833.3A	0 - 1000A	0 - 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	0 - 120kW	0 - 150kW
Power Resolution		0.1kW									
Power Accuracy		1% F.S.+6 counts									
GENERAL											
Efficiency		≥ 90% at Max. Power							≥ 85% at Max. Power		
HMI		7"Touch Screen									
Program Mode		STEP : 24 sets / 255 cycles. (Volt./Freq./Time) RAMP : 12 sets / 255 cycles. (Volt./Freq./Time)									
Soft Start Function		Setting : Rated Volt. / Rated Freq. / Start Volt. / Start Freq. / Delay Time / Ramp Time									
Protection		Input : N.F.B, Over Voltage, Under Voltage Output : Over Voltage, Over Current, Over Temperature									
Remote Interface		Standard: RS-232& RS-485 /Ethernet Option: Interface Card (Ethernet/RS-232&RS-485/USB), GPIB or Analog									
Operating Temperature		0°C ~ 45°C									
Humidity		0-90% (Non condensing)									
Altitude		< 1,500m									
Dimensions (H x W x D) ^{*5}		1045 x 628 x 840 mm (Including wheels)	1440 x 628 x 840 mm (Including wheels)			1645 x 828 x 840 mm (Including wheels)			1900 x 1178x 1200 mm		
		41.1 x 24.7 x 33.1inch (Including wheels)	56.7 x 24.7 x 33.1 inch (Including wheels)			64.8 x 32.6 x 33.1 inch (Including wheels)			74.8 x 46.4 x 47.2 inch		
Weight ^{*5}		230kg	280kg	320kg	450kg	580kg	670kg	690kg	980kg	1135kg	1415kg
		507lbs	617.4lbs	705.4lbs	992.3lbs	1278.9lbs	1477.4lbs	1,521.2lbs	2160.5lbs	2502.2lbs	3119.5lbs

*1 Please contact us for other input voltage specifications. *2 The max. current is based on a rated input voltage of 380V minus 15%. *3 For type A: 45-500Hz, please contact us for output power characteristic curve.

*4 When output frequency is at 45-65Hz and output voltage is 90V-140V(Low Range) or 180V-280V(High Range) and with resistive load.

*5 Dimensions and weight are for input voltage 380V. 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

AFV+ Series Three-Phase Output (10kVA-120kVA)

Model		AFV-PLUS-33010	AFV-PLUS-33015	AFV-PLUS-33020	AFV-PLUS-33030	AFV-PLUS-33045	AFV-PLUS-33060	AFV-PLUS-33075	AFV-PLUS-33100	AFV-PLUS-33120
INPUT										
Phase		3Ø / 3Wire + G								
Voltage ^{*1}		380Vac ±15% (option: 200 Vac, 208 Vac, 240Vac, 400Vac, or 480 Vac)								
Frequency		47-63Hz								
Max. Current ^{*2}		22A	33A	44A	66A	99A	132A	165A	233A	279.6A
Power Factor		≥ 0.9 (Max. Power)								
OUTPUT										
Power	(VA)	10kVA	15kVA	20kVA	30kVA	45kVA	60kVA	75kVA	100kVA	120kVA
Phase		3Ø / 4 Wire + G								
Voltage Ranges		0V-155.0V (L-N)								
		0V-310.0V (L-N)								
Voltage Resolution		0.1V								
Voltage Accuracy		0.5% F.S.+4 counts								
Frequency Range ^{*3}		A : 45-500Hz ; B : 45-120Hz ; C : 300-840Hz								
Frequency Resolution		0.1Hz								
Frequency Accuracy		±0.02% F.S.								
Max. Current (RMS)	Low(A)	27.8A	41.7A	55.6A	83.3A	125A	166.7A	208.3A	277.8A	333.3A
	High(A)	13.9A	20.8A	27.8A	41.7A	62.5A	83.3A	104.2A	138.9A	166.7A
Line Regulation		< 0.5%								
Load Regulation		≤ 0.5% (Resistive Load)								
Total Harmonic Distortion (THD) ^{*4}		≤ 0.5% (Resistive Load)								
Response Time		≤ 1ms								
Crest Factor		≥ 3								
MEASUREMENT										
Voltage Range		0V-310.0V								
Voltage Resolution		0.1V								
Voltage Accuracy		0.5% F.S.+4 counts								
Frequency Range		45.0-840.0Hz								
Frequency Resolution		0.01Hz								
Frequency Accuracy		±0.02% F.S.								
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	0 - 333.3A
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	0 - 120kW
Power Resolution		0.1kW								
Power Accuracy		1% F.S.+6 counts								
GENERAL										
Efficiency		≥ 90% at Max. Power							≥ 85% at Max. Power	
HMI		7"Touch Screen								
Program Mode		STEP : 24 sets / 255 cycles. (Volt./Freq./Time) RAMP : 12 sets / 255 cycles. (Volt./Freq./Time)								
Soft Start Function		Setting : Rated Volt. / Rated Freq. / Start Volt. / Start Freq. / Delay Time / Ramp Time								
Three Phase Independent Adjustment		U-N/V-N/W-N, Adjustment 0-310V								
Protection		Input : N.F.B, Over Voltage, Under Voltage Output : Over Voltage, Over Current, Over Temperature								
Remote Interface		Standard: RS-232& RS-485 /Ethernet Option: Interface Card (Ethernet/RS-232&RS-485/USB), GPIB or Analog								
Operating Temperature		0°C ~ 45°C								
Humidity		0-90% (Non condensing)								
Altitude		< 1,500m								
Dimensions (H x W x D) ^{*5}		1045 x 628 x 840 mm (Including wheels)	1440 x 628 x 840 mm (Including wheels)			1645 x 828 x 840 mm (Including wheels)			1900 x 1178x 1200 mm	
		41.1 x 24.7 x 33.1inch (Including wheels)	56.7 x 24.7 x 33.1 inch (Including wheels)			64.8 x 32.6 x 33.1 inch (Including wheels)			74.8 x 46.4 x 47.2 inch	
Weight ^{*5}		280kg	305kg	360kg	400kg	560kg	670kg	850kg	1170kg	1450kg
		617.4lbs	672.5lbs	793.8lbs	882.0lbs	1234.8lbs	1477.4lbs	1873.9lbs	2579.9lbs	3197.3lbs

*1 Please contact us for other input voltage specifications. *2 The max. current is based on a rated input voltage of 380V minus 15%. *3 For type A: 45-500Hz, please contact us for output power characteristic curve.

*4 When output frequency is at 45-65Hz and output voltage is 90V-140V(Low Range) or 180V-280V(High Range) and with resistive load.

*5 Dimensions and weight are for input voltage 380V. 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

AFV+ Series Three-Phase Output (150kVA-2000kVA)

Model		AFV-PLUS-33150	AFV-PLUS-33200	AFV-PLUS-33300	AFV-PLUS-33400	AFV-PLUS-33500	AFV-PLUS-33600	AFV-PLUS-33800	AFV-PLUS-331000	AFV-PLUS-331200	AFV-PLUS-331500	AFV-PLUS-332000
INPUT												
Phase		3Ø / 3Wire + G										
Voltage ^{*1}		380Vac ±15% (option: 400Vac, 240Vac or 480Vac)										
Frequency		47-63Hz										
Max. Current ^{*2}		349.5A	466A	699A	932A	1165.1A	1398.1A	1864.1A	2330.1A	2796.1	3495.2A	4660.2A
Power Factor		≥ 0.9 (Max. Power)										
OUTPUT												
Power	(VA)	150kVA	200kVA	300kVA	400kVA	500kVA	600kVA	800kVA	1000kVA	1200kVA	1500kVA	2000kVA
Phase		3Ø / 4 Wire + G										
Voltage Ranges		0V-155.0V (L-N)										
		0V-310.0V (L-N)										
Voltage Resolution		0.1V										
Voltage Accuracy		0.5% F.S.+4 counts										
Frequency Range ^{*3}		A : 45-500Hz ; B : 45-120Hz ; C : 300-840Hz										
Frequency Resolution		0.1Hz										
Frequency Accuracy		±0.02% F.S.										
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		< 0.5%										
Load Regulation		≤ 0.5% (Resistive Load)										
Total Harmonic Distortion (THD) ^{*4}		≤ 0.5% (Resistive Load)										
Response Time		≤ 1ms										
Crest Factor		≥ 3										
MEASUREMENT												
Voltage Range		0V-310.0V										
Voltage Resolution		0.1V										
Voltage Accuracy		0.5% F.S.+4 counts										
Frequency Range		45.0-840.0Hz										
Frequency Resolution		0.01Hz										
Frequency Accuracy		±0.02% F.S.										
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										
GENERAL												
Efficiency		≥ 85% at Max. Power										
HMI		7"Touch Screen	10.1"Touch Screen									
Program Mode		STEP : 24 sets / 255 cycles. (Volt./Freq./Time) RAMP : 12 sets / 255 cycles. (Volt./Freq./Time)										
Soft Start Function		Setting : Rated Volt. / Rated Freq. / Start Volt. / Start Freq. / Delay Time / Ramp Time										
Three Phase Independent Adjustment		U-N/V-N/W-N, Adjustment 0-310V										
Protection		Input : N.F.B, Over Voltage, Under Voltage Output : Over Voltage, Over Current, Over Temperature										
Remote Interface		Standard: RS-232& RS-485 /Ethernet Option: Interface Card (Ethernet/RS-232&RS-485/USB), GPIB or Analog										
Operating Temperature		0°C ~ 45°C										
Humidity		0-90% (Non condensing)										
Altitude		< 1,500m										
Dimensions (H x W x D) ^{*5}		1900 x 1178x 1200 mm	2050x 3881x 1539mm	2050 x 4716 x 1520 mm	2050 x 6003 x 1520 mm	2200 x 10827 x1590 mm	2200 x 12990 x1590 mm					
		74.8 x 46.4 x 47.2inch	80.7 x 152.8 x 60.6inch	80.7 x 185.7 x 59.8inch	80.7 x 236.3 x 59.8inch	86.6 x 426.3 x 62.6inch	86.6 x 511.4 x 62.6 inch					
Weight ^{*5}		1835kg	2415kg	3620kg	4670kg	5820kg	7720kg	9240kg	11080kg	16800kg	18720kg	19950kg
		4045.4lbs	5324.1lbs	7980.7lbs	10295.5lbs	12830.9lbs	17019.6lbs	20370.7lbs	24427.2lbs	37037.6lbs	41270.5lbs	43982.2lbs

*1 Please contact us for other input voltage specifications. *2 The max. current is based on a rated input voltage of 380V minus 15%. *3 For type A: 45-500Hz, please contact us for output power characteristic curve.

*4 When output frequency is at 45-65Hz and output voltage is 90V-140V(Low Range) or 180V-280V(High Range) and with resistive load.

*5 Dimensions and weight are for input voltage 380V. Please contact us for dimensions and weight for other input voltage.

*6 Please contact us for specifications.

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

ORDERING INFORMATION

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

Model Number	Description
AFV-PLUS-31010	High Power Programmable AC Power Source (10kVA/310V)
AFV-PLUS-31015	High Power Programmable AC Power Source (15kVA/310V)
AFV-PLUS-31020	High Power Programmable AC Power Source (20kVA/310V)
AFV-PLUS-31030	High Power Programmable AC Power Source (30kVA/310V)
AFV-PLUS-31045	High Power Programmable AC Power Source (45kVA/310V)
AFV-PLUS-31060	High Power Programmable AC Power Source (60kVA/310V)
AFV-PLUS-31075	High Power Programmable AC Power Source (75kVA/310V)
AFV-PLUS-31100	High Power Programmable AC Power Source (100kVA/310V)
AFV-PLUS-31120	High Power Programmable AC Power Source (120kVA/310V)
AFV-PLUS-31150	High Power Programmable AC Power Source (150kVA/310V)
AFV-PLUS-001	Type A: Output Frequency 45-500Hz ^{*3}
AFV-PLUS-002	Type B: Output Frequency 45-120Hz
AFV-PLUS-003	Type C : Output Frequency 300-840Hz ^{*1*3}
AFV-PLUS-004	Start Angle 0-359° ^{*3}
AFV-PLUS-005	Overload Capability 200% 2 sec, 150% 5 sec, 125% 15 sec ^{*3}
AFV-PLUS-006	Fast Voltage Response Option (with Time Setting Resolution 0.05S) ^{*2}
AFV-PLUS-007	Analog Control Interface
AFV-PLUS-008	GPIB Interface
AFV-PLUS-012	Input Voltage 200V ^{*3}
AFV-PLUS-013	Input Voltage 208V ^{*3}
AFV-PLUS-014	Input Voltage 240V ^{*3}
AFV-PLUS-015	Input Voltage 400V
AFV-PLUS-016	Input Voltage 480V
AFV-PLUS-017	Output Voltage 0-400V (L-N)
AFV-PLUS-018	Output Voltage 0-600V (L-N)
AFV-PLUS-020	Interface Card (Ethernet/RS-232&RS-485/USB)
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-002	USB to RS-232 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-003	RS-232/RS-485 Cable M-F type (2M)

*1 THD ≤ 2%.

*2 THD and Load Regulation ≤ 1%.

*3 Please contact us for specifications.

ORDERING INFORMATION

AFV+ Series Three-Phase Output (10kVA-2000kVA)

Model Number	Description
AFV-PLUS-33010	High Power Programmable AC Power Source (10kVA/310V)
AFV-PLUS-33015	High Power Programmable AC Power Source (15kVA/310V)
AFV-PLUS-33020	High Power Programmable AC Power Source (20kVA/310V)
AFV-PLUS-33030	High Power Programmable AC Power Source (30kVA/310V)
AFV-PLUS-33045	High Power Programmable AC Power Source (45kVA/310V)
AFV-PLUS-33060	High Power Programmable AC Power Source (60kVA/310V)
AFV-PLUS-33075	High Power Programmable AC Power Source (75kVA/310V)
AFV-PLUS-33100	High Power Programmable AC Power Source (100kVA/310V)
AFV-PLUS-33120	High Power Programmable AC Power Source (120kVA/310V)
AFV-PLUS-33150	High Power Programmable AC Power Source (150kVA/310V)
AFV-PLUS-33200	High Power Programmable AC Power Source (200kVA/310V)
AFV-PLUS-33300	High Power Programmable AC Power Source (300kVA/310V)
AFV-PLUS-33400	High Power Programmable AC Power Source (400kVA/310V)
AFV-PLUS-33500	High Power Programmable AC Power Source (500kVA/310V)
AFV-PLUS-33600	High Power Programmable AC Power Source (600kVA/310V)
AFV-PLUS-33800	High Power Programmable AC Power Source (800kVA/310V)
AFV-PLUS-331000	High Power Programmable AC Power Source (1000kVA/310V)
AFV-PLUS-331200	High Power Programmable AC Power Source (1200kVA/310V)
AFV-PLUS-331500	High Power Programmable AC Power Source (1500kVA/310V)
AFV-PLUS-332000	High Power Programmable AC Power Source (2000kVA/310V)
AFV-PLUS-001	Type A: Output Frequency 45-500Hz ^{*3}
AFV-PLUS-002	Type B: Output Frequency 45-120Hz
AFV-PLUS-003	Type C : Output Frequency 300-840Hz ^{*1*3}
AFV-PLUS-004	Start Angle 0-359° ^{*3}
AFV-PLUS-005	Overload Capability 200% 2 sec, 150% 5 sec, 125% 15 sec ^{*3}
AFV-PLUS-006	Fast Voltage Response Option (with Time Setting Resolution 0.05S) ^{*2}
AFV-PLUS-007	Analog Control Interface
AFV-PLUS-008	GPIO Interface
AFV-PLUS-010	Three Phase Angle Adjustment
AFV-PLUS-012	Input Voltage 200V ^{*3}
AFV-PLUS-013	Input Voltage 208V ^{*3}
AFV-PLUS-014	Input Voltage 240V ^{*3}
AFV-PLUS-015	Input Voltage 400V
AFV-PLUS-016	Input Voltage 480V
AFV-PLUS-017	Output Voltage 0-400V (L-N)
AFV-PLUS-018	Output Voltage 0-600V (L-N)
AFV-PLUS-020	Interface Card (Ethernet/RS-232&RS-485/USB)
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-002	USB to RS-232 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-003	RS-232/RS-485 Cable M-F type (2M)

*1 THD ≤ 2%.

*2 THD and Load Regulation ≤ 1%.

*3 Please contact us for specifications.

AFV

series

High Power Programmable AC Power Source

Interfaces

Standard

RS-232

RS-485

Ethernet

Option

GPIO

Analog

USB

QR Code



Product
Info.



Product
Video



Output Power

10kVA~2000kVA



RoHS
Compliant



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.

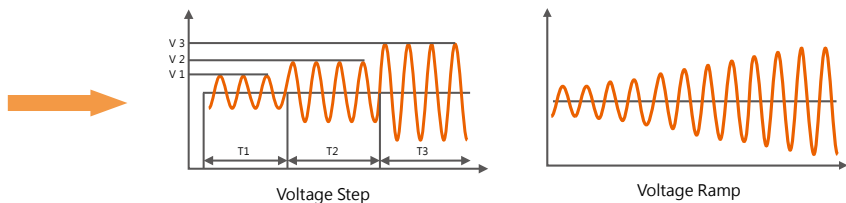
AFV series has built-in programmable STEP and RAMP functions, which is ideal for laboratories, certification and R&D institution's compliance test. This series is coupled with output voltage range of 0-310V and output frequency of standard 45-120Hz or optional 45-500Hz. Moreover, the AFV series provides complete product protections, such as OVP, UVP, OCP, OPP, OTP and short circuit protection.

User-friendly Touch Screen and Remote Control



AFV series is equipped with a 7"/10.1" Touch Screen. The intuitive and easy-to-use touch screen allows users to set test sequences immediately and precisely. Through the control interfaces (RS-232 / RS-485 / Ethernet / GPIO / Analog / USB), users can set the desired output parameters and monitor the output value remotely.

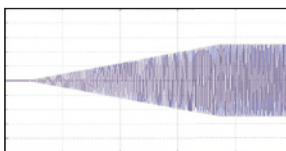
STEP / GRADUAL Mode



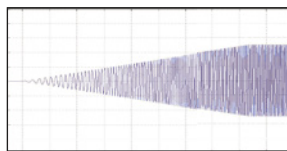
For AFV step mode, users can set voltage or frequency steps easily with 24 built-in memory groups and 255 cycles. Because of the widely used in motor or home appliance industry, the output voltage, output frequency, and running time of each step are designed to be easily set in the memory group.

With AFV gradual mode, 12 built-in memory groups and 255 cycles allows users set voltage or frequency remotely or through the touch screen. Users can set up output voltage, output frequency, the number of start/end groups.

Soft Start Function (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 RAMP and STEP Independent Adjustment (Opt.)

Step	V1	V2	V3	F1	F2	F3	T
1	40.0	60.0	20.0	60.0	0	0	5.00
2	20.0	40.0	60.0	60.0	0	0	5.00
3	60.0	20.0	40.0	60.0	0	0	5.00
4	100.0	100.0	100.0	60.0	0	0	1.00
5	100.0	100.0	100.0	60.0	0	0	1.00
6	100.0	100.0	100.0	60.0	0	0	1.00

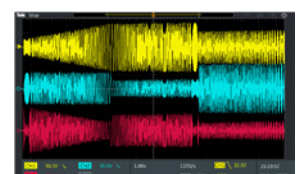
STEP Setting



STEP Waveform Display

Seq	S	E	F	T
1	S	20.0	40.0	60.0
2	E	60.0	40.0	20.0
3	S	60.0	20.0	40.0

RAMP Setting



RAMP Waveform Display

AFV series' RAMP/ STEP feature has up to 12 sequences/24 sequences available with parameters of voltage, frequency and time. These features provide an easy method to simulate different kinds of power line disturbance.

SPECIFICATIONS

AFV Series Single-Phase Output (10kVA-120kVA)

Model		AFV-31010	AFV-31015	AFV-31030	AFV-31045	AFV-31060	AFV-31080	AFV-31100	AFV-31120
INPUT									
Phase		3Ø / 3 Wire + G							
Voltage		380VAC ±15% (option:208VAC,220VAC)		380VAC ±15% (option: 480VAC)					
Frequency		47- 63Hz							
Max. Current ^{*1}		22A	33A	66A	99A	132A	197.4A	246.7A	296.1A
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		0V-155.0V (L-N)							
		0V-310.0V (L-N)							
Voltage Resolution		0.1V							
Voltage Accuracy		0.5% F.S.+ 4 counts							
Frequency Range ^{*2}		Standard : 45-120Hz Option : 45-500Hz							
Frequency Resolution		0.1Hz							
Frequency Accuracy		± 0.02 % F.S.							
Max. Current (RMS)		83.3A	125A	250A	375A	500A	666.7A	833.3A	1000A
		41.7A	62.5A	125A	187.5A	250A	333.3A	416.7A	500A
Line Regulation		< 1%							
Load Regulation		≤ 1% (Resistive Load)							
Total Harmonic Distortion (THD) ^{*3}		≤ 1% (Resistive Load)							
Response Time		≤ 2ms							
Crest Factor		≥ 3							
MEASUREMENT									
Voltage Range		0V-310.0V							
Voltage Resolution		0.1V							
Voltage Accuracy		0.5% F.S.+ 4 counts							
Frequency Range		45.0-500.0Hz							
Frequency Resolution		0.01Hz							
Frequency Accuracy		± 0.02 % F.S.							
Current Range (RMS)		0 - 83.3A	0 - 125A	0 - 250A	0 - 375A	0 - 500A	0 - 666.7A	0 - 833.3A	0 - 1000A
Current Resolution (RMS)		0.1A							
Current Accuracy (RMS)		0.5% F.S.+4 counts							
Power Range		0 - 10kW	0 - 15kW	0 - 30kW	0 - 45kW	0 - 60kW	0 - 80kW	0 - 100kW	0 - 120kW
Power Resolution		0.1kW							
Power Accuracy		1% F.S.+6 counts							
GENERAL									
Efficiency		≥ 90% at Max. Power					≥ 85% at Max. Power		
HMI		7" Touch Screen			10.1" Touch Screen				
Program Mode		STEP : 24 sets / 255 cycles. (Volt./Freq./Time) RAMP : 12 sets / 255 cycles. (Volt./Freq./Time)							
Protection		Input : N.F.B, Over Voltage, Under Voltage / Output : Over Voltage, Over Current, Over Temperature							
Remote Interface		Standard : RS-232& RS-485 /Ethernet Option: Interface Card (Ethernet/RS-232&RS-485/USB), GPIB or Analog							
Operational Temperature		0°C ~ 45°C							
Humidity		0-90% (Non condensing)							
Altitude		< 1,500m							
Dimensions (H x W x D) ^{*4}		1045x 600 x 800 mm (including wheels)		1440 x 600 x 800 mm (including wheels)	1645 x 800 x 800 mm (including wheels)		1800 x 1050 x 950 mm		1900 x 1150 x 1200 mm
		41.1 x 23.6 x 31.5 inch (including wheels)		56.7 x 23.6 x 31.5 inch (including wheels)	64.8 x 31.5 x 31.5 inch (including wheels)		70.9 x 41.3 x 38.2 inch		74.8 x 45.3 x 48.0 inch
Weight ^{*4}		225kg	270kg	440kg	560kg	650kg	750kg	940kg	1100kg
		496.1lbs	595.4lbs	970.2lbs	1234.8lbs	1433.3lbs	1653.8lbs	2072.7lbs	2425.5lbs

^{*1} The max. current is based on a rated input voltage of 380V minus 15%. ^{*2} For 45-500Hz option, please contact us for output power characteristic curve.

^{*3} When the output voltage is at Low : 90-140V or High 180-280V with load power factor of 1. ^{*4} Dimensions and weight are for input voltage 220/380V. 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

AFV Series Three-Phase Output (10kVA-120kVA)

Model		AFV-33010	AFV-33015	AFV-33030	AFV-33045	AFV-33060	AFV-33080	AFV-33100	AFV-33120
INPUT									
Phase		3Ø / 3 Wire + G							
Voltage		380VAC ±15% (option: 208VAC, 220VAC)				380VAC ±15% (option: 480VAC)			
Frequency		47- 63Hz							
Max. Current ^{*1}		22A	33A	66A	99A	132A	197.4A	246.7A	296.1A
Power Factor		≥ 0.9 (Max. Power)					≥ 0.85 (Max. Power)		
OUTPUT									
Power	(VA)	10kVA	15kVA	30kVA	45kVA	60kVA	80kVA	100kVA	120kVA
Phase		3Ø / 4 Wire + G							
Voltage Ranges		0V-155.0V (L-N)							
		0V-310.0V (L-N)							
Voltage Resolution		0.1V							
Voltage Accuracy		0.5% F.S.+4 counts							
Frequency Range ^{*2}		Standard : 45-120Hz Option : 45-500Hz							
Frequency Resolution		0.1Hz							
Frequency Accuracy		± 0.02% F.S.							
Max. Current (RMS)	Low(A)	27.8A	41.7A	83.3A	125A	166.7A	222.2A	277.8A	333.3A
	High(A)	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) ^{*3}		≤ 1% (Resistive Load)							
Response Time		≤ 2ms							
Crest Factor		≥ 3							
MEASUREMENT									
Voltage Range		0V-310.0V							
Voltage Resolution		0.1V							
Voltage Accuracy		0.5% F.S.+4 counts							
Frequency Range		45.0-500.0Hz							
Frequency Resolution		0.01Hz							
Frequency Accuracy		± 0.02% F.S.							
Current Range(RMS)		0 - 27.8A	0 - 41.7A	0 - 83.3A	0 - 125A	0 - 166.7A	0 - 222.2A	0 - 277.8A	0 - 333.3A
Current Resolution(RMS)		0.1A							
Current Accuracy(RMS)		0.5% F.S.+4 counts							
Power Range		0 - 10kW	0 - 15kW	0 - 30kW	0 - 45kW	0 - 60kW	0 - 80kW	0 - 100kW	0 - 120kW
Power Resolution		0.1kW							
Power Accuracy		1% F.S.+6 counts							
GENERAL									
Efficiency		≥ 90% at Max. Power					≥ 85% at Max. Power		
HMI		7" Touch Screen				10.1" Touch Screen			
Program Mode		STEP : 24 sets / 255 cycles. (Volt./Freq./Time) RAMP : 12 sets / 255 cycles. (Volt./Freq./Time)							
Protection		Input : N.F.B, Over Voltage, Under Voltage / Output : Over Voltage, Over Current, Over Temperature							
Remote Interface		Standard: RS-232& RS-485 /Ethernet Option: Interface Card (Ethernet/RS-232&RS-485/USB), GPIB or Analog							
Operational Temperature		0°C ~ 45°C							
Humidity		0-90% (Non condensing)							
Altitude		< 1,500m							
Dimensions (H x W x D) ^{*4}		1045 x 600 x 800 mm (including wheel)	1440 x 600 x 800 mm (including wheel)		1645 x 800 x 800 mm (including wheel)		1800 x 1050 x 950 mm		1900 x 1150 x 1200 mm
		41.1 x 23.6 x 31.5 inch (including wheel)	56.7 x 23.6 x 31.5 inch (including wheel)		64.8 x 31.5 x 31.5 inch (including wheel)		70.9 x 41.3 x 38.2 inch		74.8 x 45.3 x 48.0 inch
Weight ^{*4}		255kg	295kg	390kg	540kg	650kg	1000kg	1170kg	1450kg
		562.3lbs	650.5lbs	860lbs	1190.7lbs	1433.3lbs	2205lbs	2579.85lbs	3197.3lbs

*1 The max. current is based on a rated input voltage of 380V minus 15%. *2 For 45-500Hz option, please contact us for output power characteristic curve.

*3 When the output voltage is at Low : 90-140V or High 180-280V with load power factor of 1.

*4 Dimensions and weight are for input voltage 380V. 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

AFV Series Three-Phase Output (160kVA-1600kVA)

Model		AFV-33160	AFV-33240	AFV-33300	AFV-33400	AFV-33500	AFV-33640	AFV-33800	AFV-331000	AFV-331200	AFV-331600
INPUT											
Phase		3Ø / 3 Wire + G									
Voltage		380Vac ±15% (option: 480Vac)									
Frequency		47-63Hz									
Max. Current ^{*1}		394.7A	592.1A	740.2A	986.9A	1233.6A	1579A	1973.7A	2467.2A	2960.6A	3947.5A
Power Factor		≥ 0.85 (Max. Power)									
OUTPUT											
Power	(VA)	160kVA	240kVA	300kVA	400kVA	500kVA	640kVA	800kVA	1000kVA	1200kVA	1600kVA
Phase		3Ø / 4 Wire + G									
Voltage Ranges	Low(V) ^{*5}	0V-155.0V (L-N)									
	High(V)	0V-310.0V (L-N)									
Voltage Resolution		0.1V									
Voltage Accuracy		0.5% F.S.+4 counts									
Frequency Range ^{*2}		Standard : 45-120Hz Option : 45-500Hz									
Frequency Resolution		0.1Hz									
Frequency Accuracy		± 0.02 % F.S.									
Max. Current (RMS)	Low(A)	444.4A	666.7A	833.3A	1111.1A	1388.9A	1777.8A	2222.2A	2777.8A	3333.3A	4444.4A
	High(A)	222.2A	333.3A	416.7A	555.6A	694.4A	888.9A	1111.1A	1388.9A	1666.7A	2222.2A
Line Regulation		≤ 1%									
Load Regulation		≤ 1% (Resistive Load)									
Total Harmonic Distortion(THD) ^{*3}		≤ 1% (Resistive Load)									
Response Time		≤ 2ms									
MEASUREMENT											
Voltage Range		0V-310.0V									
Voltage Resolution		0.1V									
Voltage Accuracy		0.5% F.S.+4 counts									
Frequency Range		45.0-500.0Hz									
Frequency Resolution		0.01Hz									
Frequency Accuracy		± 0.02 % F.S.									
Current Range (RMS)		0 - 444.4A	0 - 666.7A	0 - 833.3A	0 - 1111.1A	0 - 1388.9A	0 - 1777.8A	0 - 2222.2A	0 - 2777.8A	0 - 3333.3A	0 - 4444.4A
Current Resolution (RMS)		0.1A									
Current Accuracy (RMS)		0.5% F.S.+4 counts									
Power Range		0 - 160kW	0 - 240kW	0 - 300kW	0 - 400kW	0 - 500kW	0 - 640kW	0 - 800kW	0 - 1000kW	0 - 1200kW	0 - 1600kW
Power Resolution		0.1kW									
Power Accuracy		1% F.S.+6 counts									
GENERAL											
Efficiency		≥ 85% at Max. Power									
HMI		10.1" Touch Screen									
Program Mode		STEP : 24 sets / 255 cycles. (Volt./Freq./Time) RAMP : 12 sets / 255 cycles. (Volt./Freq./Time)									
Protection		Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature.									
Remote Interface		Standard: RS-232& RS-485 /Ethernet Option: Interface Card (Ethernet/RS-232&RS-485/USB), GPIB or Analog									
Operlional Temperature		0°C ~ 45°C									
Humidity		0-90% (Non condensing)									
Altitude		< 1,500m									
Dimensions (H x W x D) ^{*4}		1900 x 1150 x 1220 mm/ 74.8 x 45.3 x 48.8 inch		2050 x 3880 x 1539 mm/ 80.7 x 152.8 x 60.6 inch			2050 x 4716 x 1520 mm / 80.7 x 185.7 x 59.8 inch		2050 x 6003 x 1520 mm/ 80.7 x 236.3 x 59.8 inch	2200 x 10827 x 1590 mm / 86.6 x 426.3 x 62.6 inch	
Weight ^{*4}		1850kg	2800kg	3450kg	4450kg	5550kg	7800kg	8800kg	10550kg	16000kg	17600kg
		4079.3lbs	6174lbs	7607.3lbs	9812.3lbs	12237.8lbs	17199lbs	19404lbs	23262.8lbs	35280lbs	38808lbs

*1 The max. current is based on a rated input voltage of 380V minus 15%. *2 For 45-500Hz option, please contact us for output power characteristic curve.

*3 When the output voltage is at Low : 90-140V or High 180-280V with load power factor of 1 .

*4 Dimensions and weight are for input voltage 220/380V. Please contact us for dimensions and weight for other input voltage.

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

ORDERING INFORMATION

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

Model Number	Description
AFV-31010	High Power Programmable AC Power Source (10kVA/310V/45-120Hz)
AFV-31015	High Power Programmable AC Power Source (15kVA/310V/45-120Hz)
AFV-31030	High Power Programmable AC Power Source (30kVA/310V/45-120Hz)
AFV-31045	High Power Programmable AC Power Source (45kVA/310V/45-120Hz)
AFV-31060	High Power Programmable AC Power Source (60kVA/310V/45-120Hz)
AFV-31080	High Power Programmable AC Power Source (80kVA/310V/45-120Hz)
AFV-31100	High Power Programmable AC Power Source (100kVA/310V/45-120Hz)
AFV-31120	High Power Programmable AC Power Source (120kVA/310V/45-120Hz)
AFV-001	Output Frequency 45Hz-500Hz
AFV-002	Soft Start Mode
AFV-005	GPIO Interface
AFV-006	Analog Control Interface
AFV-007	Overload Capability 200% 2 sec, 150% 5 sec, 125% 15 sec ^{*1}
AFV-008	Interface Card (Ethernet/RS-232&RS-485/USB)
AFV-009	Remote Sensing
AFV-010	Remote Control Software
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type(2M)
ACCS-003	RS-232/RS-485 Cable M-F type(2M)

AFV Series Three-Phase Output (10kVA-2000kVA)

Model Number	Description
AFV-33010	High Power Programmable AC Power Source (10kVA/310V/45-120Hz)
AFV-33015	High Power Programmable AC Power Source (15kVA/310V/45-120Hz)
AFV-33030	High Power Programmable AC Power Source (30kVA/310V/45-120Hz)
AFV-33045	High Power Programmable AC Power Source (45kVA/310V/45-120Hz)
AFV-33060	High Power Programmable AC Power Source (60kVA/310V/45-120Hz)
AFV-33080	High Power Programmable AC Power Source (80kVA/310V/45-120Hz)
AFV-33100	High Power Programmable AC Power Source (100kVA/310V/45-120Hz)
AFV-33120	High Power Programmable AC Power Source (120kVA/310V/45-120Hz)
AFV-33160	High Power Programmable AC Power Source (160kVA/310V/45-120Hz)
AFV-33240	High Power Programmable AC Power Source (240kVA/310V/45-120Hz)
AFV-33300	High Power Programmable AC Power Source (300kVA/310V/45-120Hz)
AFV-33400	High Power Programmable AC Power Source (400kVA/310V/45-120Hz)
AFV-33500	High Power Programmable AC Power Source (500kVA/310V/45-120Hz)
AFV-33640	High Power Programmable AC Power Source (640kVA/310V/45-120Hz)
AFV-33800	High Power Programmable AC Power Source (800kVA/310V/45-120Hz)
AFV-331000	High Power Programmable AC Power Source (1000kVA/310V/45-120Hz)
AFV-331200	High Power Programmable AC Power Source (1200kVA/310V/45-120Hz)
AFV-331600	High Power Programmable AC Power Source (1600kVA/310V/45-120Hz)
AFV-001	Output Frequency 45Hz-500Hz
AFV-002	Soft Start Mode
AFV-003	Three Phase Independent Adjustment
AFV-004	Phase Angle Adjustment
AFV-005	GPIO Interface
AFV-006	Analog Control Interface
AFV-007	Overload Capability 200% 2 sec, 150% 5 sec, 125% 15 sec ^{*1}
AFV-008	Interface Card (Ethernet/RS-232&RS-485/USB)
AFV-009	Remote Sensing
AFV-010	Remote Control Software
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type(2M)
ACCS-003	RS-232/RS-485 Cable M-F type(2M)

*1 Please contact us for specifications.

AFV-S series

Programmable AC Power Source

Interfaces

Standard **RS-232** **RS-485** **PLC Remote**

Option **Ethernet** **Analog** **USB**

QR Code



Product Info.



Product Video



Output Power
600VA~5000kVA

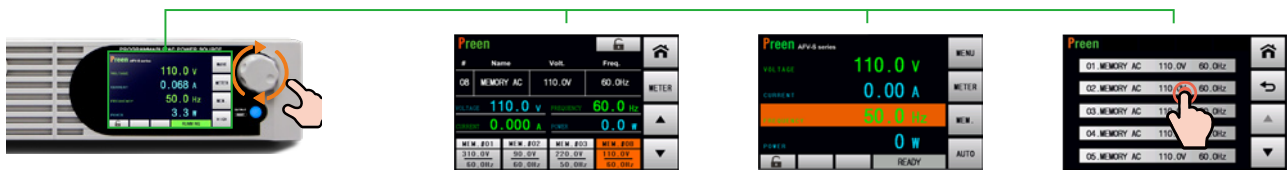
RoHS Compliant **CE**

Preen's AFV-S series is a programmable AC power source with precise measurement capability. This compact product comes in four output power levels: 600VA, 1250VA, 2500VA and 5000VA, which provides clean power with low harmonic distortion.

The AFV-S series can display 4 shortcuts of 20 memory sets, and the voltage and frequency setting of each memory sets can be clearly read. Users can quickly set and view the parameters via 5 inches touch panel or rotary knob, which provides an easy operation and measurement display.

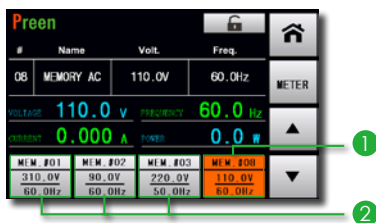
The AFV-S series is equipped with communication interfaces of RS232, RS485, Ethernet(opt.), Analog(opt.), and USB(opt.). Its complete remote interfaces and specialized control software offer an easy programming manner to remotely control the product. It is ideal for home appliances, power connector, LED lighting, automation testing in manufacturing and product testing in laboratory.

Intuitive Touch Screen Control



The 5 inches touch screen provides users a clear display and an easy set up. AFV-S is also equipped with a rotary knob for better fine tune adjustments.

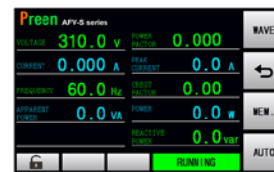
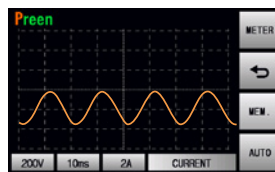
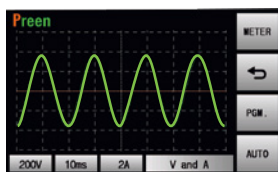
4 Shortcuts of Memory Sets



- ① One user-assigned shortcut from 20 memory sets
- ② Three fixed shortcut from first three memory sets

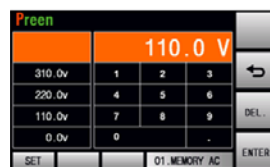
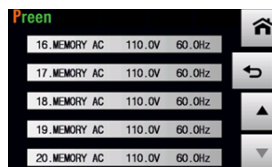
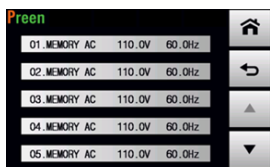
AFV-S series can display 4 shortcuts of memory sets, and the voltage and frequency setting of each memory sets can be clearly read. The user can quickly switch the output by selecting the shortcuts. Also, the Screen Lock function is also provided for preventing operators from accidentally changing shortcuts during output and causing DUT damage.

Waveform Display & Comprehensive Measurement



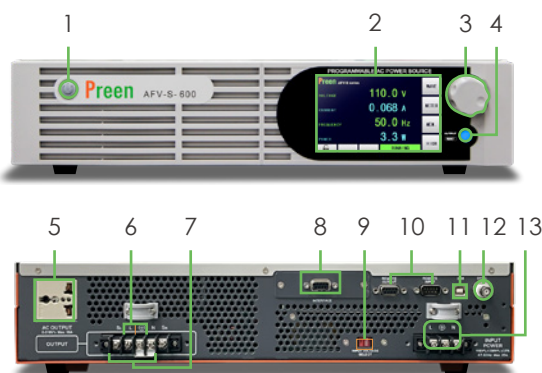
AFV-S series is capable of providing output waveform display and precise measurements, user can easily check the measurements of RMS voltage, output frequency, RMS current, true power, apparent power, reactive power, power factor and crest factor according to the product output. Additionally, all measurements can be exported as a report via the control software for analyzing and tracking EUT performance.

20 Memory Sets with Value Adjustment



The AFV-S is equipped with 20 customizable memory sets and a 5-inch touchscreen, offers precise control for multiple testing applications. Its intuitive interface allows for simultaneous display of 5 settings, voltage, and frequency values, ensuring efficient and accurate measurements.

PANEL DESCRIPTION



1. Power Switch
2. Touch Screen HMI
3. Rotary Knob
4. Output / Reset
5. AC Output Socket
6. Output Terminals
7. Remote Sense
8. RS-232/RS-485
9. Input Voltage Selector
10. PLC Remote In/Out
11. USB Interface(for firmware update)
12. Sync. Signal I/O
13. Input Socket*

*AFV-S-1250, AFV-S-2500, AFV-S-5000 have input terminals.

ORDERING INFORMATION

AFV-S Series Single-Phase Output (600VA-5kVA)

Model Number	Description
AFV-S-600	Programmable AC Power Source (600VA/310V/40-500Hz)
AFV-S-1250	Programmable AC Power Source (1250VA/310V/40-500Hz)
AFV-S-2500	Programmable AC Power Source (2500VA/310V/40-500Hz)
AFV-S-5000	Programmable AC Power Source (5000VA/310V/40-500Hz)
AFV-S-002	Interface Card (Ethernet/RS-232&RS-485/USB)
AFV-S-003	Analog Control Interface
AFV-S-010	Input Power Cable 3M (for 1.25kVA/2.5kVA)
AFV-S-011	Input Power Cable 5M (for 5kVA)
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-003	RS-232/RS-485 Cable M-F type (2M)

SPECIFICATIONS

AFV-S Series Single-Phase Output (600VA-5kVA)

Model		AFV-S-600		AFV-S-1250		AFV-S-2500		AFV-S-5000			
INPUT											
Phase		1Ø / 2 Wire + G									
Voltage		98-132Vac/196-264Vac				196-264Vac					
Frequency		47-63Hz									
Max. Current		10A		20A		20A		40A			
OUTPUT											
Power		(VA)		600VA		1250VA		2500VA		5000VA	
		(W)		500W		1000W		2000W		4000W	
Phase		1Ø / 2 Wire + G									
Voltage Ranges		0-155Vrms / 0-310Vrms, user selectable									
Voltage Accuracy		±(1% of Setting + 0.1% F.S.)									
Voltage Resolution		0.1Vrms									
Frequency		40-500Hz									
Frequency Accuracy		±0.02%									
Frequency Resolution		0.1Hz									
Max. Current (RMS)		5A/2.5A		10A/5A		20A/10A		40A/20A			
Max. Current (Peak)		20A/10A		40A/20A		80A/40A		160A/80A			
Total Harmonic Distortion (THD)		≤ 0.3% at 110V/220V, 50Hz, 60Hz ≤ 0.5% (Resistive Load)									
Line Regulation		±0.1V									
Load Regulation		≤ 0.07% F.S (Resistive Load)									
Response Time		≤ 300µs									
Crest Factor		≥ 3									
Inrush Current		≤ 4 time of max. output current (RMS)									
MEASUREMENT											
Voltage Range		0-420Vrms									
Voltage Accuracy		±(0.2% of Reading + 5 Counts)									
Voltage Resolution		0.1V									
Frequency Range		40.0-500.0Hz									
Frequency Accuracy		±0.1Hz									
Frequency Resolution		0.1Hz									
Current Range (RMS)		Hi: 1-12A/Lo: 0.005-1.2A				Hi: 2-24A/ Lo: 0.005-2.4A		Hi: 0.05-48A			
Current Accuracy (RMS) ^{*1}		±(1% of reading +5 counts) at PF>0.2									
Current Resolution (RMS)		Hi: 0.01A/Lo: 0.001A						Hi: 0.01A			
Peak Current Range		0-45A				0-90A		0-180A			
Peak Current Accuracy		±(1% of Reading + 10 Counts)									
Peak Current Resolution		0.1A									
Power Range		Hi: 100-1200W/ Lo: 0-120W				Hi: 200-2400W/ Lo: 0-240W		Hi: 0-4800W			
Power Accuracy		±(2% of Reading + 10 Counts), at 40-500Hz									
Power Resolution		Hi: 1W/Lo: 0.1W						Hi: 1W			
GENERAL											
Efficiency		≥ 77% at Max. Power		≥ 80% at Max. Power							
Protection		OVP, LVP, OCP, OPP, OTP, RCP, Fan Fail and AMP Fail									
Remote Interface		Standard : RS-232/RS-485/PLC Remote IN & OUT Option : Analog/Ethernet/USB									
Over Current Foldback		Over Current Foldback									
Output Sync Signal		ON, Event for Voltage or Frequency Change (Output signal 5V , BNC type)									
Memories		20 Memories, 4 Shortcuts									
Operating Temperature		0~40℃									
Dimensions (HxWxD)		89×442×495mm/ 3.5×17.4×19.5inch				89×442×650mm/ 3.5×17.4×25.6inch		176×442×665mm/ 6.9×17.4×26.2inch			
Weight		approx.16kg / 35.3lbs		approx.20kg / 44.1lbs		approx. 31.3kg / 69lbs		approx. 61.5kg / 135lbs			

* All specifications are subject to change without notice.

*1 AFV-S-2500 IS ±(1% F.S. + 5 counts).

The Best Choice for Grid Abnormal Simulation

Providing clean sine wave AC power, the AFC series allows users to simulate all sorts of utility grid voltage and frequency. The new AFC series features upgraded appearance design and user interface for a more intuitive control. It provides measurements of voltage, current, frequency and power factor. Moreover, the built-in hot key function allows quick memory recall and easy voltage and frequency setting.



Easy-to-use HMI

User-friendly Design, Making Operations More Efficient



One-touch Control

Fast Switching, Meeting Diverse Testing Needs



High Overload Capability

Easy to Activate Products that Require High Activation Current

■ 10" Intuitive Touch Screen Control

Users can easily read or set test parameters.

■ Applicable to 100% Unbalanced Load

Capable of delivering power to either three separate single-phase devices like EV Charger or one single three-phase device.

■ RS-232 & RS-485 Remote Interfaces

Users can set test parameters for single or multiple AFC series remotely.



AFC series

AC Power Source/ Frequency Converter

Interfaces

Standard

RS-232

RS-485

QR Code



Product
Info.



Product
Video



Output Power

10kVA~2000kVA

RoHS
Compliant



Providing clean sine wave AC power, the AFC series allows users to simulate all sorts of utility grid voltage and frequency for export product testing or operation of imported equipment. With a brand new appearance design, the new AFC series has not only improved electronic performance but also upgraded its user interface with 7" or 10.1" Touch Screen as well as RS-232 and RS-485 for more intuitive control. The AFC series now provides measurements of voltage, current, frequency and power factor. The built-in hot key function allows quick memory recall and easy voltage and frequency setting.

AFC series can simulate standard or abnormal voltage and frequency status. The maximum output power is up to 2000kVA in one unit instead of parallel. The output voltage range is 0-310V, and the output frequency is adjustable between optional 45-65Hz continuously, and optional 45-65Hz, 100Hz / 120Hz / 200Hz / 240Hz / 400Hz. This series provides pure sine wave output, with single and three-phase output models which are suitable for various industries including home appliances, electrical electronics and medical equipment.

Best Solution for Voltage and Frequency Conversions



Variable Transformer + MG set

AFC series

Control/Operation	Simple with Limited Functions	Intuitive HMI & Touch Screen
Waveform Simulation	V & Hz Adjustable	Power Disturbance Simulations & Other Programmable Features Available
Remote Control/ Measurement	Measurement only	Measurement + Remote Control
Reliability	High	High
Applications	Basic Power Conversion	Basic to Sophisticated Application

Unlike variable transformers, AFC series offers precise control over voltage, frequency, and power conditions through a user-friendly interface. With lower THD for cleaner waveforms, it ensures more accurate test results, making it ideal for various applications from basic to advanced simulations.

Overload Capability (Opt.)

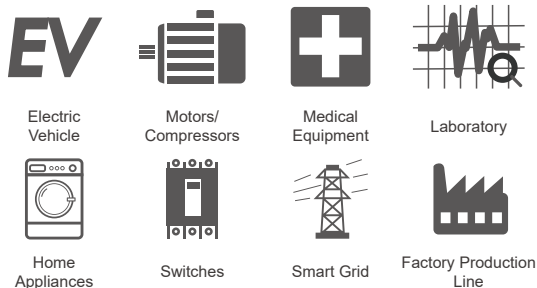
200% 2 sec

150% 5 sec

125% 15 sec

An electric-motor-type UUT (Unit under Test), such as motor, compressor or water pump, generates great activation current when activating. As a result, users need to purchase a power supply with much higher capacity than the UUT itself. AFC series has an optional overload capability that can endure/achieve 200% overload capability, easy to activate products of electric motor type that require high activation current.

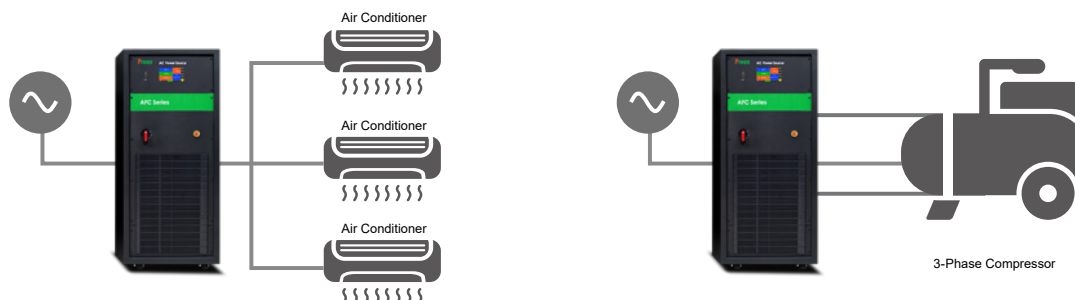
Ideal Power Source for Various Industries



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 conversion.

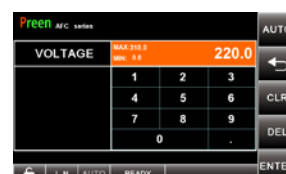
The unit can also be applied as isolation between DUT and the grid to reduce the interference from each side. These features make the AFC series ideal for home appliance, EMC chamber, motor and electronic industries.

Applicable to 100% Unbalanced Load



The AFC series is reliable for testing home appliances, motors, and compressors in production lines or laboratories. It can simulate different voltages and frequencies found in various countries to confirm the DUT's reliability. AFC series can handle unbalanced three-phase loads and connect to single-phase or three-phase loads simultaneously.

Friendly UI and Hot Key Group



The AFC series features a large touchscreen for precise parameter adjustments and remote control via RS-232 and RS-485 interfaces. The display provides real-time monitoring of voltage, current, and active power, with six customizable hotkeys for quick access to common settings. Additionally, the AFC series offers effortless switching between phase-to-phase and phase-to-neutral display with a single click.

SPECIFICATIONS

AFC Series Single-Phase Output (5kVA-30kVA)

Model		AFC-11005-E		AFC-11010		AFC-11015		AFC-11030	
INPUT									
Phase		1Ø / 2 Wire + G							
Voltage ^{*1}		220V±15%							
Frequency		47- 63Hz							
Max. Current ^{*2}		41.8A		66.0A		99.0A		198.1A	
Power Factor		≥ 0.8 (Max. Power)		≥ 0.90 (Max. Power)					
OUTPUT									
Power (VA)		5kVA		10kVA		15kVA		30kVA	
Phase		1Ø / 2 Wire + G							
Voltage Ranges	Low(V)	5V-150.0V (L-N)		0V-155.0V (L-N)					
	High(V)	10V-300.0V(L-N)		0V-310.0V(L-N)					
Voltage Resolution		0.1V							
Voltage Accuracy		0.2% F.S.+4 counts		0.5% F.S.+4 counts					
Frequency Range ^{*3}		Standard:47Hz - 63Hz;50Hz;60Hz Option: 2&4 times frequency:400Hz		Standard : 45-65Hz Option : 45-65Hz,100Hz/120Hz/200Hz/240Hz/400Hz					
Frequency Resolution		0.1Hz							
Frequency Accuracy		±0.1% F.S.		±0.02% F.S.					
Max. Current	Low(A)	41.7A		83.3A		125A		250A	
	High(A)	20.8A		41.7A		62.5A		125A	
Line Regulation		< 1%							
Load Regulation		< 1% (Resistive Load)							
Total Harmonic Distortion ^{*4}		≤ 2% (Resistive Load)							
Response Time		≤ 2ms							
MEASUREMENT									
Voltage Range		0V-310.0V							
Voltage Resolution		0.1V							
Voltage Accuracy		0.2% F.S.+4counts		0.5% F.S.+4counts					
Frequency Range		45-400Hz							
Frequency Resolution		0.1Hz		0.01Hz					
Frequency Accuracy		±0.1% F.S.		±0.02% F.S.					
Current Range(RMS)		0-250A							
Current Resolution(RMS)		0.01A		0.1A					
Current Accuracy(RMS)		0.2% F.S.+4counts		0.5% F.S.+4counts					
Power Range		0 - 5kW		0 - 10kW		0 - 15kW		0 - 30kW	
Power Resolution		0.01kW		0.1kW					
Power Accuracy		0.3% F.S.+4counts		1% F.S.+6counts					
GENERAL									
Efficiency		≥ 80% at Max. Power		≥90% at Max. Power					
HMI		Digital LED Display		7" Touch Screen					
Memories		-		6 sets (M1/M2/M3/M4/M5/M6)					
Protection		Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature		Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature					
Remote Interface		-		Standard : RS-232 &RS-485					
Operating Temperature		0°C ~ 45°C							
Humidity		0-90% (Non condensing)							
Altitude		< 1,500m							
Dimensions (H x W x D) ^{*5}		720 x 430 x 520 mm (including wheels)		1045 x 600 x 800 mm (including wheels)				1440 x 600 x 800 mm (including wheels)	
		28.3x 16.9 x 20.4 inch (including wheels)		41.1x 23.6 x 31.5 inch (including wheels)				56.7x 23.6 x 31.5 inch (including wheels)	
Weight ^{*5}		89 kg		210 kg		240 kg		330 kg	
		196.2 lbs		462.9 lbs		529.1 lbs		727.5 lbs	

*1 Please contact us for other input voltage specifications. *2 The max. current is based on rated input voltage of 220V minus 15%.

*3 For frequency option, please contact us for output power characteristic curve. *4 When the output voltage is at Low : 90-140V or High 180-280V with load power factor of 1.

*5 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-120kVA)

Model		AFC-31010	AFC-31015	AFC-31030	AFC-31045	AFC-31060	AFC-31080	AFC-31100	AFC-31120
INPUT									
Phase		3Ø / 3 Wire + G							
Voltage ^{*1}		380VAC ±15% (option: 220V / 208VAC)			380VAC ±15% (option: 480VAC)				
Frequency		47-63Hz							
Max. Current ^{*2}		22A	33A	66A	99A	132A	197.4A	246.7A	296.1A
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)	0V-155.0V (L-N)							
	High(V)	0V-310.0V (L-N)							
Voltage Resolution		0.1V							
Voltage Accuracy		0.5% F.S.+4counts							
Frequency Range ^{*3}		Standard : 45-65Hz Option : 45-65Hz, 100Hz / 120Hz / 200Hz / 240Hz / 400Hz							
Frequency Resolution		0.01Hz							
Frequency Accuracy		±0.02% F.S.							
Max. Current	Low(A)	83.3A	125A	250A	375A	500A	666.7A	833.3A	1000A
	High(A)	41.7A	62.5A	125A	187.5A	250A	333.3A	416.7A	500A
Line Regulation		< 1%							
Load Regulation		≤ 1% (Resistive Load)							
Total Harmonic Distortion ^{*4}		≤ 2% (Resistive Load)							
Response Time		≤ 2ms							
MEASUREMENT									
Voltage Range		0V-310.0V							
Voltage Resolution		0.1V							
Voltage Accuracy		0.5% F.S.+4counts							
Frequency Range		45-400Hz							
Frequency Resolution		0.01Hz							
Frequency Accuracy		±0.02% F.S.							
Current Range(RMS)		0 - 83.3A	0 - 125A	0 - 250A	0 - 375A	0 - 500A	0 - 666.7A	0 - 833.3A	0 - 1000A
Current Resolution(RMS)		0.1A							
Current Accuracy(RMS)		0.5% F.S.+4counts							
Power Range		0 - 10kW	0 - 15kW	0 - 30kW	0 - 45kW	0 - 60kW	0 - 80kW	0 - 100kW	0 - 120kW
Power Resolution		0.1kW							
Power Accuracy		1% F.S.+6counts							
GENERAL									
Efficiency		≥ 90% at Max. Power					≥ 85% at Max. Power		
HMI		7" Touch Screen			10.1" Touch Screen				
Memories		6 sets (M1/M2/M3/M4/M5/M6)							
Protection		Input : N.F.B, Over Voltage, Under Voltage Output : Over Voltage, Over Current, Over Temperature							
Remote Interface		Standard : RS-232 &RS-485							
Operating Temperature		0°C ~45°C							
Humidity		0-90% (Non condensing)							
Altitude		< 1,500m							
Dimensions (H x W x D) ^{*5}		1045 x 600 x 800 mm (including wheels)		1440 x 600 x 800 mm (including wheels)	1645 x 800 x 800 mm (including wheels)		1800 x 1050 x 950 mm		1900 x 1150 x 1200 mm
		41.1 x 23.6 x 31.5 inch (including wheels)		56.7 x 23.6 x 31.5 inch (including wheels)	64.8 x 31.5 x 31.5 inch (including wheels)		70.9 x 41.3 x 38.2 inch		74.8 x 45.3 x 48.0 inch
Weight ^{*5}		225kg	270kg	440kg	560kg	650kg	750kg	940kg	1100kg
		496.0lbs	595.2lbs	970.0lbs	1234.6lbs	1433.03lbs	1653.5lbs	2072.3lbs	2451.1lbs

*1 Please contact us for other input voltage specifications. *2 The max. current is based on a rated input voltage of 380V minus 15%. *3 For frequency option, please contact us for output power characteristic curve.

*4 When the output voltage is at Low : 90-140V or High 180-280V with load power factor of 1. *5 Dimensions and weight are for input voltage 220/380V. 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-80kVA)

Model	AFC-33005		AFC-33010		AFC-33015		AFC-33030		AFC-33045		AFC-33060		AFC-33080			
INPUT																
Phase		3Ø / 3 Wire + G														
Voltage ^{*1}		380Vac ±15% (option: 220 / 208VAC)						380Vac ±15% (option: 480VAC)								
Frequency		47-63Hz														
Max. Current ^{*2}		11A		22A		33A		66A		99A		132A		197.4A		
Power Factor		≥ 0.9 Max. Power												≥ 0.85 Max. Power		
OUTPUT																
Power (VA)		5kVA		10kVA		15kVA		30kVA		45kVA		60kVA		80kVA		
Phase		3Ø / 4 Wire + G														
Voltage Ranges	Low(V)	0V-155.0V (L-N)														
	High(V)	0V-310.0V (L-N)														
Voltage Resolution		0.1V														
Voltage Accuracy		0.5% F.S.+4counts														
Frequency Range ^{*3}		Standard : 45-65Hz Option : 45-65Hz, 100Hz/120Hz/200Hz/240Hz/400Hz														
Frequency Resolution		0.1Hz														
Frequency Accuracy		±0.02% F.S.														
Max. Current	Low(A)	13.9A		27.8A		41.7A		83.3A		125A		166.7A		222.2A		
	High(A)	6.9A		13.9A		20.8A		41.7A		62.5A		83.3A		111.1A		
Line Regulation		≤ 1%														
Load Regulation		≤ 1% (Resistive Load)														
Total Harmonic Distortion ^{*4}		≤ 2% (Resistive Load)														
Response Time		≤ 2ms														
MEASUREMENT																
Voltage Range		0V-310.0V														
Voltage Resolution		0.1V														
Voltage Accuracy		0.5% F.S.+4counts														
Frequency Range		45-400Hz														
Frequency Resolution		0.01Hz														
Frequency Accuracy		±0.02% F.S.														
Current Range(RMS)		0 - 13.9A		0 - 27.8A		0 - 41.7A		0 - 83.3A		0 - 125A		0 - 166.7A		0 - 222.2A		
Current Resolution(RMS)		0.1A														
Current Accuracy(RMS)		0.5% F.S.+4counts														
Power Range		0 - 5kW		0 - 10kW		0 - 15kW		0 - 30kW		0 - 45kW		0 - 60kW		0 - 80kW		
Power Resolution		0.1kW														
Power Accuracy		1% F.S.+6counts														
GENERAL																
Efficiency		≥ 90% at Max. Power												≥ 85 % at Max. Power		
HMI		7" Touch Screen								10.1" Touch Screen						
Memories		6 sets (M1/M2/M3/M4/M5/M6)														
Protection		Input : N.F.B, Over Voltage, Under Voltage Output : Over Voltage, Over Current, Over Temperature														
Remote Interface		Standard : RS-232 &RS-485														
Operating Temperature		0°C ~ 45°C														
Humidity		0-90% (Non condensing)														
Altitude		< 1,500m														
Dimensions (H x W x D) ^{*5}		1045 x 600 x 800 mm (including wheels)				1440 x 600 x 800 mm (including wheels)				1645 x 800 x 800 mm (including wheels)				1800 x 1050 x 970 mm		
		41.1 x 23.6 x 31.5 inch (including wheels)				56.7 x 23.6 x 31.5 inch (including wheels)				64.8 x 31.5 x 31.5 inch (including wheels)				70.9x41.3x38.2 inch		
Weight ^{*5}		205kg		255kg		295kg		390kg		540kg		650kg		1000kg		
		452.9lbs		562.2lbs		650.4lbs		859.8lbs		1190.5lbs		1433.0lbs		2204.6lbs		

^{*1} Please contact us for other input voltage specifications. ^{*2} The max. current is based on a rated input voltage of 380V minus 15%.

^{*3} For frequency option, please contact us for output power characteristic curve. ^{*4} When the output voltage is at Low : 90-140V or High 180-280V with load power factor of 1.

^{*5} Dimensions and weight are for input voltage 380V. 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 (100kVA-640kVA)

Model		AFC-33100	AFC-33120	AFC-33160	AFC-33240	AFC-33300	AFC-33400	AFC-33500	AFC-33640
INPUT									
Phase		3 Ø / 3 Wire + G							
Voltage ^{*1}		380Vac ±15% (option: 480VAC)							
Frequency		47-63Hz							
Max. Current ^{*2}		246.7A	296.1A	394.7A	592.1A	740.2A	986.9A	1233.6A	1579A
Power Factor		≥ 0.85 (Max. Power)							
OUTPUT									
Power (VA)		100kVA	120kVA	160kVA	240kVA	300kVA	400kVA	500kVA	640kVA
Phase		3Ø / 4 Wire + G							
Voltage Ranges	Low(V) ^{*6}	0-155 V (L-N)							
	High(V)	0-310 V (L-N)							
Voltage Resolution		0.1V							
Voltage Accuracy		0.5% F.S.+4 counts							
Frequency Range ^{*3}		Standard : 45-65Hz Option : 45-65Hz, 100Hz/120Hz/200Hz/240Hz/400Hz							
Frequency Resolution		0.1Hz							
Frequency Accuracy		±0.02% F.S							
Max. Current (RMS)	Low(A)	277.8A	333.3A	444.4A	666.7A	833.3A	1111.1A	1388.9A	1777.8A
	High(A)	138.9A	166.7A	222.2A	333.3A	416.7A	555.6A	694.4A	888.9A
Line Regulation		≤ 1%							
Load Regulation		≤ 1% (Resistive Load)							
Total HarmonicDistortion(THD) ^{*4}		≤ 2% (Resistive Load)							
Response Time		≤ 2ms							
MEASUREMENT									
Voltage Range		0V-310.0V							
Voltage Resolution		0.1V							
Voltage Accuracy		0.5% F.S.+4 counts							
Frequency Range		45-400Hz							
Frequency Resolution		0.01Hz							
Frequency Accuracy		±0.02% F.S.							
Current Range(RMS)		0 - 277.8A	0 - 333.3A	0 - 444.4A	0 - 666.7A	0 - 833.3A	0 - 1111.1A	0 - 1388.9A	0 - 1777.8A
Current Resolution(RMS)		0.1A							
Current Accuracy(RMS)		0.5% F.S.+4counts							
Power Range		0 - 100kW	0 - 120kW	0 - 160kW	0 - 240kW	0 - 300kW	0 - 400kW	0 - 500kW	0 - 640kW
Power Resolution		0.1kW							
Power Accuracy		1% F.S.+6counts							
GENERAL									
Efficiency		≥ 85% at Max. Power							
HMI		10.1" Touch Screen							
Memories		6 sets (M1/M2/M3/M4/M5/M6)							
Protection		Input : N.F.B, Over Voltage, Under Voltage, Output : Over Voltage, Over Current, Over Temperature							
Remote Interface		Standard : RS-232 &RS-485							
Operating Temperature		0°C ~ 45°C							
Humidity		0-90% (Non condensing)							
Altitude		< 1,500m							
Dimensions (H x W x D) ^{*5}		1800 x 1050 x 970 mm	1900 x 1150 x 1200 mm			2050 x 3130 x 1200 mm	2050 x 3548x 1520 mm		2050 x 4716 x 1500 mm
		70.9 x 41.3 x 38.2 inch	74.8 x 45.3 x 48.8 inch			80.7 x 123.2 x 47.2 inch	80.7 x 136.2 x 59.8 inch		80.7 x 185.6 x 59 inch
Weight ^{*5}		1170kg	1450kg	1850kg	2800kg	3450kg	4450kg	5550kg	7800kg
		2579.4lbs	3196.7lbs	4078.6lbs	6172.9lbs	7605.9lbs	9801.6lbs	12234.6lbs	17196lbs

*1 Please contact us for other input voltage specifications.

*3 For frequency option, please contact us for output power characteristic curve.

*5 Dimensions and weight are for input voltage 380V. Please contact us for dimensions and weight for other input voltage.

*6 Please contact us for specifications

*2 The max. current is based on a rated input voltage of 380V minus 15%.

*4 When the output voltage is at Low : 90-140V or High 180-280V with load power factor of 1.

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

ORDERING INFORMATION

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

Model Number	Description
AFC-11005-E	High Power Programmable AC Power Source (5kVA/310V/47Hz-63Hz;50Hz;60Hz)
AFC-11010	High Power Programmable AC Power Source (10kVA/310V/45-65Hz)
AFC-11015	High Power Programmable AC Power Source (15kVA/310V/45-65Hz)
AFC-11030	High Power Programmable AC Power Source (30kVA/310V/45-65Hz)
AFC-31010	High Power Programmable AC Power Source (10kVA/310V/45-65Hz)
AFC-31015	High Power Programmable AC Power Source (15kVA/310V/45-65Hz)
AFC-31030	High Power Programmable AC Power Source (30kVA/310V/45-65Hz)
AFC-31045	High Power Programmable AC Power Source (45kVA/310V/45-65Hz)
AFC-31060	High Power Programmable AC Power Source (60kVA/310V/45-65Hz)
AFC-31080	High Power Programmable AC Power Source (80kVA/310V/45-65Hz)
AFC-31100	High Power Programmable AC Power Source (100kVA/310V/45-65Hz)
AFC-31120	High Power Programmable AC Power Source (120kVA/310V/45-65Hz)
AFC-001	45-65Hz, 100Hz/120Hz/200Hz/240Hz/400Hz
AFC-002	400Hz Fixed
AFC-006	Overload Capability 200% 2 sec, 150% 5 sec, 125% 15 sec ^{*1}
AFC-011	Remote Control Box
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-002	USB to RS-232 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-003	RS-232/RS-485 Cable M-F type (2M)

AFC Three-Phase Output(5kVA-640kVA)

Model Number	Description
AFC-33005	High Power Programmable AC Power Source (5kVA/310V/45-65Hz)
AFC-33010	High Power Programmable AC Power Source (10kVA/310V/45-65Hz)
AFC-33015	High Power Programmable AC Power Source (15kVA/310V/45-65Hz)
AFC-33030	High Power Programmable AC Power Source (30kVA/310V/45-65Hz)
AFC-33045	High Power Programmable AC Power Source (45kVA/310V/45-65Hz)
AFC-33060	High Power Programmable AC Power Source (60kVA/310V/45-65Hz)
AFC-33080	High Power Programmable AC Power Source (80kVA/310V/45-65Hz)
AFC-33100	High Power Programmable AC Power Source (100kVA/310V/45-65Hz)
AFC-33120	High Power Programmable AC Power Source (120kVA/310V/45-65Hz)
AFC-33160	High Power Programmable AC Power Source (160kVA/310V/45-65Hz)
AFC-33240	High Power Programmable AC Power Source (240kVA/310V/45-65Hz)
AFC-33300	High Power Programmable AC Power Source (300kVA/310V/45-65Hz)
AFC-33400	High Power Programmable AC Power Source (400kVA/310V/45-65Hz)
AFC-33500	High Power Programmable AC Power Source (500kVA/310V/45-65Hz)
AFC-33640	High Power Programmable AC Power Source (640kVA/310V/45-65Hz)
AFC-001	45-65Hz, 100Hz/120Hz/200Hz/240Hz/400Hz
AFC-002	400Hz Fixed
AFC-006	Overload Capability 200% 2 sec, 150% 5 sec, 125% 15 sec ^{*1}
AFC-007	Input Voltage 208Vac
AFC-008	Input Voltage 480Vac
AFC-009	Input Voltage 220Vac
AFC-010	Input Voltage 400Vac
AFC-011	Remote Control Box
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-002	USB to RS-232 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-003	RS-232/RS-485 Cable M-F type (2M)

^{*1} Please contact us for specifications.

Specialized Grid-tied Device Test Solution

Over 90% of Energy Regeneration Efficiency 

PAS series is a four-quadrant AC power source which is capable of sinking the power from EUT back to the grid with more than 90% efficiency. This function effectively helps to reduce the electricity cost. The PAS series is suitable for testing distributed generation/Grid-tied EUT with energy feedback feature, for example, solar inverter, PCS (power conditioning system), V2G (vehicle-to-grid).

Harmonics Waveform Synthesis Function



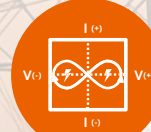
Adjust Voltage and Starting Phases for Each Step to Create Waveform Distortion

HVRT/LVRT Test



Independently Set Three-phase Values to Simulate Voltage Fluctuations

4 Quadrant Regenerative Capability



Allowing DUT's reverse current to feed back into the grid



Interfaces

Standard **RS-232** **RS-485**

Option **Ethernet** **GPIO** **USB**

QR Code



Product Info.



Product Video



Output Power

30kVA~2000kVA

RoHS Compliant **CE**

PAS series is developed for renewable energy related applications. It can simulate the various grid conditions and related test standards. Especially for the voltage and frequency transient simulation test feature, which is very suitable for production, quality verification, research and development. It is also built with Low Voltage Ride Through (LVRT) and High Voltage Ride Through (HVRT) test function and gradual mode programmable capability.

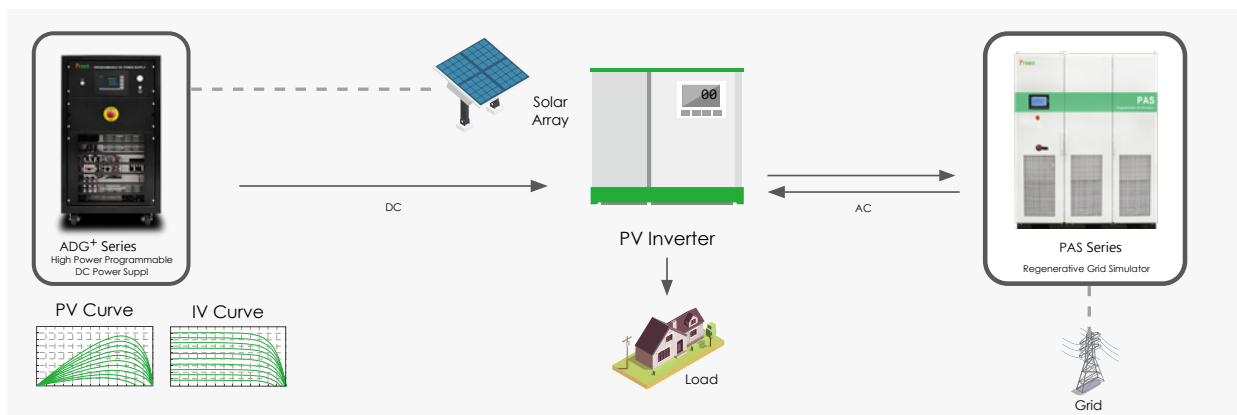
PFV Series is a new generation of programmable AC power supply, with four quadrant energy feedback function. This unit not

only provides power to the EUT, but also sinks the power back to the grid system which is very useful for grid-tied devices testing applications.

The maximum output power for PAS series is up to 2000kVA, and the PFV series is up to 400kVA. The output voltage range is 0-300V(L-N) and the standard output frequency is 45-65Hz continuously adjustable (optional 40-70Hz).

Regenerative Function

PV Inverter Testing Application



PAS series is a four-quadrant AC power source. Even in 2000kVA output power, it is capable to both sink and source over 90% efficiency from the DUT. It is suitable for PV Inverter test, EV charger test or other grid-tied devices test. Build in with Low Voltage Ride Through (LVRT) and High Voltage Ride Through (HVRT) test graph and it is very suitable for IEEE-1547 or BDEW related standards compliance test.

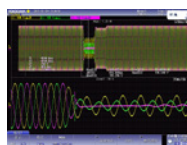
HVRT and LVRT Function

Three Phase Independent Output Voltage Setting

Independent setting for three phase high/low voltage ride through to simulate voltage surge and drop.



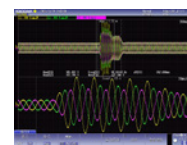
Low Voltage Ride Through Setting



LVRT Output Waveform



High Voltage Ride Through Setting

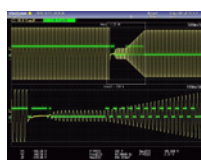


HVRT Output Waveform

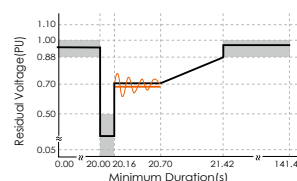
Low Voltage Ride Through Test-IEEE Std 1547.1-2020



Setting for LVRT



LVRT Output Waveform

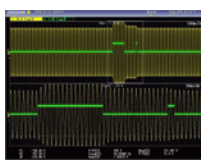


LVRT Test Standard IEEE Std 1547.1-2020

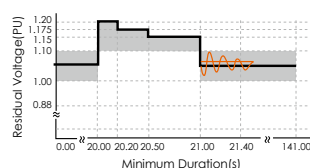
High Voltage Ride Through Test-IEEE Std 1547.1-2020



Setting for HVRT



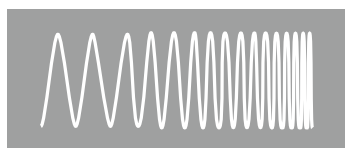
HVRT Output Waveform



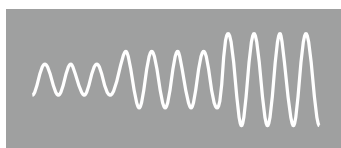
HVRT Test Standard IEEE Std 1547.1-2020

PAS built-in HVRT/LVRT function can simulate the situation when the abnormality is ruled out from on the main AC grid. Simulations such as voltage drop, voltage restore or rising time and remaining time can all be programmed.

GRADUAL and STEP Function



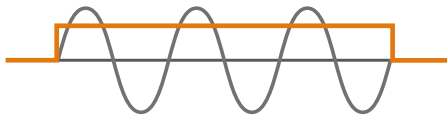
Frequency Gradual Function



Voltage Step Function

PAS / PFV series have multiple programmable functions to precisely and effectively simulate various power line disturbances such as voltage or frequency ramp up or ramp down, transient and step changes.

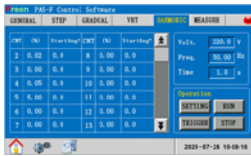
Synchronized Signal



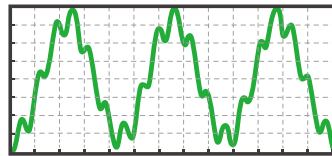
5V DC Synchronized Signal

The PAS series offers synchronized signal output, providing a stable 5V DC signal throughout operation. This feature makes it an ideal AC source for automated test systems that require precise timing and synchronization.

Harmonics Waveform Synthesis Function (Opt.)



Harmonics Waveform Synthesis Function Setting

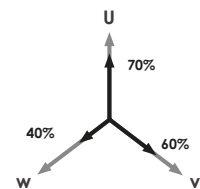
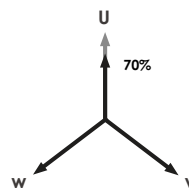
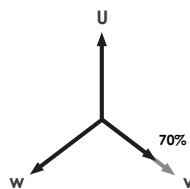
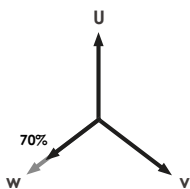


Simulating Harmonics Waveform

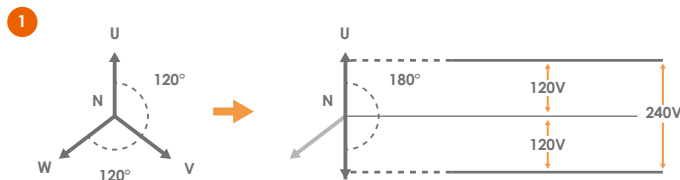
PAS series' harmonics waveform synthesis function can allow user to program multiplex distorted harmonic waveform of up to 25 steps. It can simply set up voltage and adjust start phase of each step base on fundamental frequency 50Hz or 60Hz.

Three Phase Independent Adjustment

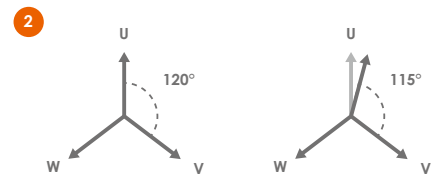
The Three Phase Independent Adjustment function of PAS series can simulate advanced power line disturbance such as three-phase voltage imbalance or lost-phase, which can further meet up with standard of IEC61000-4-34 and GB/T 17626-34. To set output voltage of each phase independently, user can simply press the screen icon to switch between imbalance or unbalanced voltage setting for three phase independent voltage adjustment.



Three Phase Angle Adjustment



JP	100V/200V
TW	110V/220V
USA	120V/240V
CA	120V/240V
MX	120V/240V



The PAS series offers advanced functionality with the ability to independently set the voltage for each phase and adjust the phase angle between them through the optional Phase Angle Adjustment feature. This allows users to simulate phase shifting, replicating various power conditions. With a single unit, users can conveniently simulate single-phase three-wire or single-phase two-wire power systems, providing versatile testing capabilities for diverse applications.

SPECIFICATIONS

PAS Series & PFV Series Three-Phase Output (30kVA-1000kVA)

Model	PAS-F-33030	PAS-F-33045	PAS-F-33060	PAS-F-33075	PAS-F-33100	PAS-F-33120	PAS-F-33150	PAS-F-33200	PAS-F-33300	PAS-F-33400	PAS-F-33600	PAS-F-33800	PAS-F-331000
	PFV-33030	PFV-33045	PFV-33060	PFV-33075	PFV-33100	PFV-33120	PFV-33150	PFV-33200	PFV-33300	PFV-33400	-	-	-
INPUT													
Phase	3Ø / 3 Wire + G												
Voltage ^{*1}	380V±15%												
Frequency	47-63Hz												
Max. Current ^{*2}	58.7A	88.1A	117.4A	146.8A	195.7A	234.9A	293.6A	391.4A	587.1A	782.8A	1174.3A	1565.7A	1957.1A
Power Factor	≥ 0.99(Max. Power)												
OUTPUT													
Power (VA)	30kVA	45kVA	60kVA	75kVA	100kVA	120kVA	150kVA	200kVA	300kVA	400kVA	600kVA	800kVA	1000kVA
Phase	3Ø / 4 Wire + G												
Voltage Ranges	Low(V)	0V-150.0V(L-N)											
PFV Series	High(V)	0V-300.0V(L-N)											
Voltage Ranges PAS-F Series	0V-300.0V(L-N)												
Voltage Resolution	0.1V												
Voltage Accuracy	0.5% F.S.+4 counts												
Frequency Range	Standard : 45-65Hz Option : 40-70Hz												
Frequency Resolution	0.1Hz												
Frequency Accuracy	±0.02% F.S												
Max.Current(RMS) PAS-F Series	41.6A	62.5A	83.3A	104.1A	138.9A	166.6A	208.3A	277.8A	416.7A	555.6A	833.3A	1111.1A	1388.8A
Max. Current (RMS)	Low(A)	83.3A	125A	166.7A	208.3A	277.8A	333.3A	416.7A	555.6A	833.3A	1111.1A	-	-
PFV Series	High(A)	41.6A	62.5A	83.3A	104.1A	138.9A	166.6A	208.3A	416.7A	555.6A	-	-	-
Line Regulation	≤ 1%												
Load Regulation	≤ 1% (Resistive Load)												
Total Harmonic Distortion(THD)	≤ 2% (Resistive Load)												
Response Time	≤ 2ms												
Crest Factor	≥ 3												
MEASUREMENT													
Voltage Range	0V-300.0V												
Voltage Resolution	0.1V												
Voltage Accuracy	0.5%F.S.+4counts												
Frequency Range	Standard : 45-65Hz Option : 40-70Hz												
Frequency Resolution	0.01Hz												
Frequency Accuracy	±0.02% F.S												
Current Range(RMS)	0-9999A												
Current Resolution(RMS)	0.1A												
Current Accuracy(RMS)	0.5% F.S.+4counts												
Power Range	0-1000kW												
Power Resolution	0.1kW												
Power Accuracy	1% F.S.+6 counts												
GENERAL													
Regenerative Function	YES												
Voltage Ride Through (VRT)	PAS Series : YES , PFV Series : NO												
Three-phase independent adjustment	YES												
Phase Angle Setting	YES												
Efficiency	≥ 92% at Max. Power												
HMI	Touch Screen												
Protection	Input : Input N.F.B, Over Voltage, Under Voltage Output : Over Voltage, Over Current, Reverse Current, Over Temperature												
Harmonics Editor	2-25 times (PAS series optional)												
Remote Interface	Standard : RS-485, RS-232 Option : GPIB, Ethernet, USB												
Operating Temperature	0°C ~45°C												
Humidity	0-90% (Non condensing)												
Altitude	< 1,500m												
Dimensions (H x W x D) ^{*3}	1920 x 1200 x 800 mm /75.59 x 47.24 x 31.49 inch		2120 x 1200 x 800 mm /83.46 x 47.24 x 31.49 inch		2120 x 1600 x 800 mm / 83.46 x 62.99 x 31.49 inch				2050 x 3530 x 1520mm / 82.67 x 129.92 x 49.21 inch		2050 x 4664 x 1520mm / 82.67 x 183.62 x 49.21 inch		2050 x 5635x 1520mm / 80.71 x 221.85 x 59.84 inch
Weight ^{*4}	860kg	1000kg	1150kg	1315kg	1415kg	1495kg	1585kg	1895kg	2685kg	3485kg	5270kg	6640kg	8530kg
	1892 lbs	2200 lbs	2530 lbs	2893 lbs	3113 lbs	3289 lbs	3487 lbs	4169 lbs	5907 lbs	7667 lbs	11594 lbs	14608 lbs	18766 lbs

*1 Please contact for other voltage specification. *2 The max. current is based on a rated input voltage of 380V minus 15%. *3 Please contact us for detailed dimensions.

*4 The weight of certain models is estimated. For detailed specifications, please contact us. * All specifications are subject to change without notice.

ORDERING INFORMATION

PAS-F Series Three-Phase Output (30kVA-1000kVA)

Model Number	Description
PAS-F 33030	Regenerative Grid Simulator (30kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 33045	Regenerative Grid Simulator (45kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 33060	Regenerative Grid Simulator (60kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 33075	Regenerative Grid Simulator (75kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 33100	Regenerative Grid Simulator (100kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 33120	Regenerative Grid Simulator (120kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 33150	Regenerative Grid Simulator (150kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 33200	Regenerative Grid Simulator (200kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 33300	Regenerative Grid Simulator (300kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 33400	Regenerative Grid Simulator (400kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 33600	Regenerative Grid Simulator (600kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 33800	Regenerative Grid Simulator (800kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 331000	Regenerative Grid Simulator (1000kVA/300V/45-65Hz, Including LVRT Testing)
PAS-F 001	Soft Start Function
PAS-F 002	GPIO Interface
PAS-F 003	Ethernet Interface
PAS-F 004	USB Interface
PAS-F 005	Output Frequency 40-70Hz
PAS-F 006	Harmonics Editor
PAS-F 007	Output Voltage 0-350V (L-N)
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-002	USB to RS-232 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-003	RS-232/RS-485 Cable M-F type (2M)

PFV Series Three-Phase Output (30kVA-400kVA)

Model Number	Description
PFV-33030	High Power Programmable AC Power Source (30kVA/300V/45-65Hz, Including Regenerative Function)
PFV-33045	High Power Programmable AC Power Source (45kVA/300V/45-65Hz, Including Regenerative Function)
PFV-33060	High Power Programmable AC Power Source (60kVA/300V/45-65Hz, Including Regenerative Function)
PFV-33075	High Power Programmable AC Power Source (75kVA/300V/45-65Hz, Including Regenerative Function)
PFV-33100	High Power Programmable AC Power Source (100kVA/300V/45-65Hz, Including Regenerative Function)
PFV-33120	High Power Programmable AC Power Source (120kVA/300V/45-65Hz, Including Regenerative Function)
PFV-33150	High Power Programmable AC Power Source (150kVA/300V/45-65Hz, Including Regenerative Function)
PFV-33200	High Power Programmable AC Power Source (200kVA/300V/45-65Hz, Including Regenerative Function)
PFV-33300	High Power Programmable AC Power Source (300kVA/300V/45-65Hz, Including Regenerative Function)
PFV-33400	High Power Programmable AC Power Source (400kVA/300V/45-65Hz, Including Regenerative Function)
PFV-001	Soft Start Function
PFV-002	GPIO Interface
PFV-003	Ethernet Interface
PFV-004	USB Interface
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-002	USB to RS-232 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-003	RS-232/RS-485 Cable M-F type (2M)

A Great Leap for DC Power Supply

Industrial-leading Power Supply

Up to 1800kW

Preen's ADG+ series is a high-power DC power supply, featuring low ripple, high accuracy and fast response. With optional I-V curve simulation and up to 300kW output per unit, it's ideal for EV motor, DC/DC converter, ESS, and inverter testing.

Auto Range

0-2000V, 0-2500A
Adjustable

Low Ripple
 $\leq 0.05\%$
High Precision
 $\leq 0.1\%$

Solar Array Simulation

Built-in EN50530
Simulation

High Output Power

30 kW-1800 kW

Complimentary Control Software

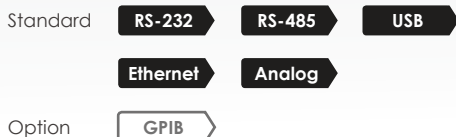
User-friendly &
Intuitive Operation



ADG⁺ series

High Power Programmable DC Power Supply

Interfaces



QR Code



Product Info.



Product Video



Output Power

30kW~1800kW

RoHS Compliant CE

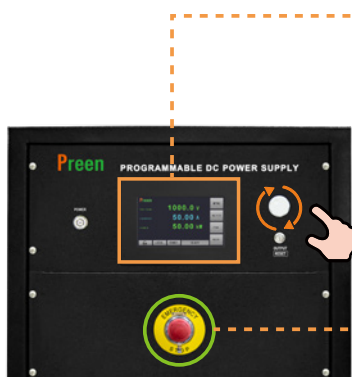
Preen's newly released ADG⁺ series is a high-power-density programmable DC power supply. With the design of DSP control, it offers a great response time and high accuracy. The self-developed high power module enhances stability and heat dissipation, thus improving product quality. The output mode of CV, CC and CP are fully equipped. This series' single-unit power ranges from 30kW to 300kW, and with wide range of output voltage / current, it can reach up to 2000V, and up to 2500A in low-voltage high-current models. The output voltage and current can even be further expanded via parallel operation and

series operation. The ADG⁺ series is ideal for testing EV motor/ compressor, server power supply, fuse, circuit breaker, contactor and PV inverter.

For communication interface, the users can select the standard RS-485, RS-232, Analog Control, Ethernet, USB and optional GPIO. The product also equips with remote control software for users to control with ease via PC. The product is CE and RoHS certified.

* ADG+ series is an upgraded version of ADG-P series which is honored with the 2018 Taiwan Excellence Award

Intuitive Touch Screen and Rotary Knob



The upgraded HMI and 7" colored touch screen can clearly display the parameters and status of the product, and combined with the built-in programming function, user can easily perform various simulations.



The rotary knob can be used for fine tuning and quick selection to improve convenience on operation.

Emergency stop button is used for quick shut down, thus enhancing the protection function and meet the requirement for laboratory related testing field.

UPGRADED

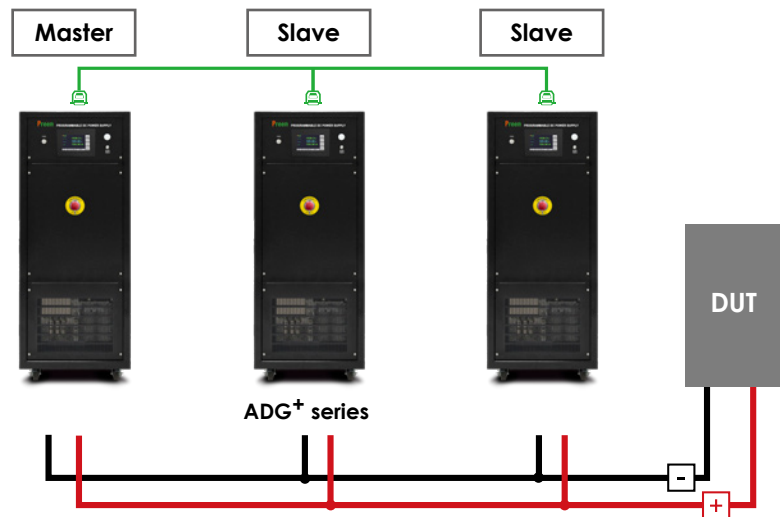
Advanced HMI with Intuitive Design for Easier and Safer Operation

The ADG⁺ series employs 7" touch screen and rotary knob to provide intuitive display and easy-to-use control. The built-in programming function has been upgraded, so not only complex sequences can be set from the PC, but also from the touch screen. Emergency stop button is equipped for quick shut down, thus enhancing the product safety. Users can quickly access output settings and measurements, including voltage, current and power.

Master/Slave Parallel Operation

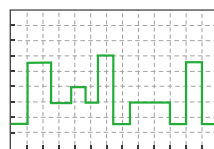


High Power + Master/Slave Operation
=Flexibility

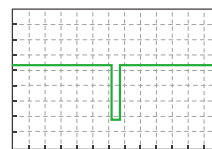


The output power of the ADG⁺ series is up to 300kW per unit, which can be expanded to 1800kW through simple master-slave operation (max. 6 units). User can simply operate the master unit, the slave unit will receive and reply the data accordingly and equally share the load current. ADG⁺ series is one of the few high-power DC power supply with parallel feature on the market. The availability for single-unit and parallel operation provides greater flexibility for application.

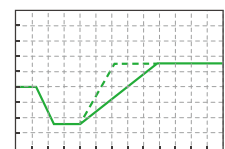
Programming Sequences and Simulations



DC Pulse



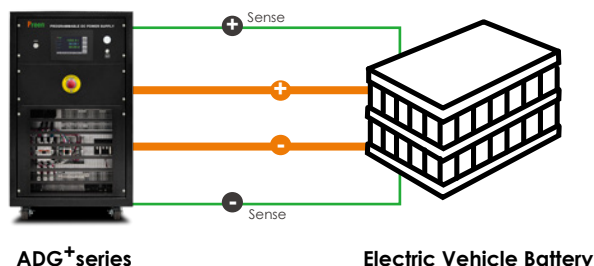
Voltage Sag



Slew Rate Control

The built-in programming function of the ADG⁺ series is consisted of GROUPS and STEPS. Users can set output voltage, output current and time to generate step or consecutive voltage/current changes, and set different rise/fall time according to their requirement. This built-in function and the ADG⁺ series control software allow users to create complex DC waveform with sophisticated coding. Making programming the DC power supply an easy task.

Remote Sensing



In the factory or laboratory, there is often a certain distance in the configuration of power and load. The Remote Sensing of ADG⁺ series is able to compensate the voltage drop caused by the cable length, so the user can avoid the inconvenience of adjusting the voltage.

Solar Array Simulation (opt.)

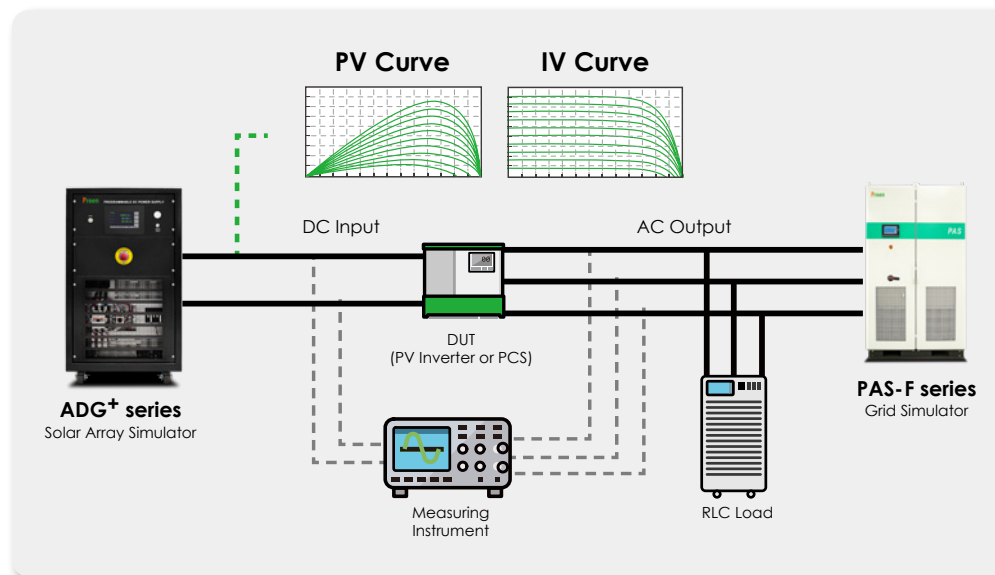
ADG⁺ series high power programmable DC power supply options as solar array simulation function can be programmed from the front panel without using a controller. Using built-in SAS mode, only four input parameters are needed to establish an I-V curve, which simulates solar panels under different irradiation and temperature.

Using built-in EN50530 mode, the I-V curve is established according to the solar cell material (C-Si or thin film), and the user can program the output according to the irradiation and temperature. In addition, the user can also define I-V curves based on different material characteristic to simulate various solar cell materials.

UPGRADED

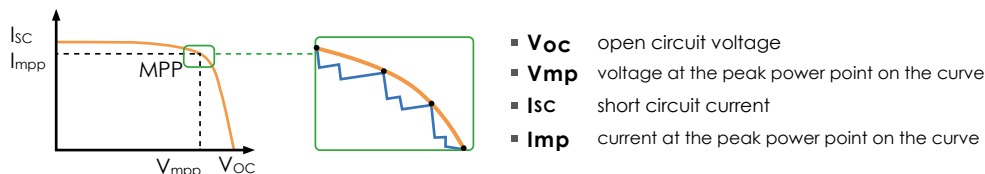
Complete Solar Array Simulation and Easy Static & Dynamic MPPT Efficiency Validation

- Static & dynamic MPPT efficiency test (with optional remote control software).
- Simulation of I-V curve under different irradiation and temperature.
- Complied with standard SAS, EN50530, Sandia test regulation.
- IV curve can be user-defined and edited via remote control software.
- Simulation of output characteristic of various solar cell (C-Si and thin film).
- Accurate voltage and current measurement.



■ SAS Testing Mode

Using SAS Mode, user can set V_{oc} , I_{sc} , V_{mpp} and I_{mpp} according to the spec of PV inverter, then the DSP control system performs P-V and I-V curve calculation accordingly. The dynamic irradiation adjustment is also available during output.



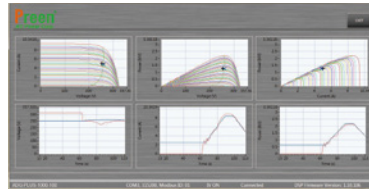
■ EN50530 Testing Mode

Mainly used for grid-tie inverters, the EN50530 Testing Mode features solar cell model of C-Si/thin-film and the feature of dynamic irradiances/temperature adjustment, user can verify the performance of the inverters: static & dynamic MPPT tracking efficiency, conversion efficiency and overall efficiency.

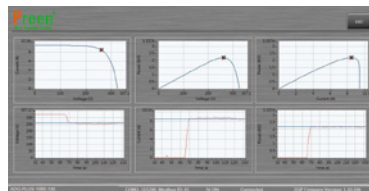
Solar Array Simulation Control Software (opt.)

ADG⁺ series options I-V curve remote control software with parameter setting and output waveform display to verify Dynamic & Static MPPT Efficiency of SAS Mode and EN50530 test regulations.

■ Dynamic MPPT Efficiency



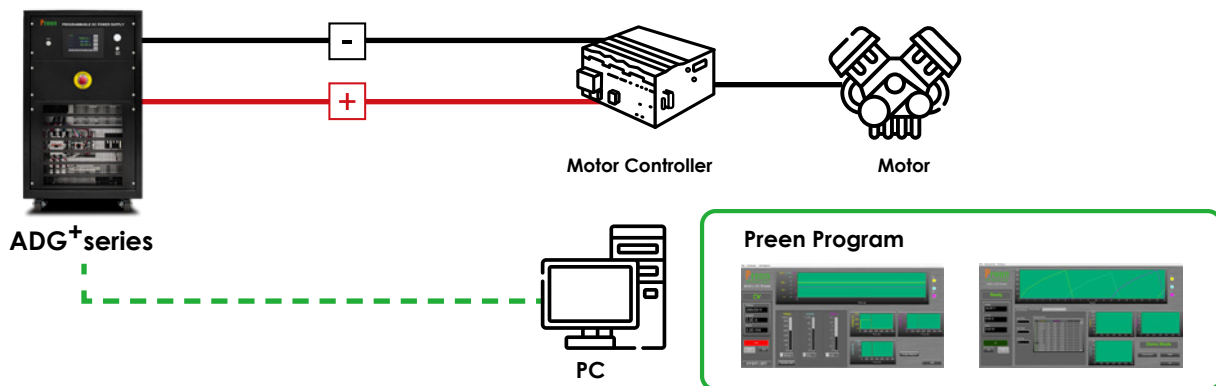
■ Static MPPT Efficiency



EV Testing Applications

■ EV Motor Controlling

Motor controlling, as the core component of electric vehicle, controls the initiation, speed, movement and direction of the motor drive, and converts the electrical energy of power battery and provide to the motor drive. ADG⁺ series has many high voltage models to simulate power battery of EV for motor controlling verification or aging testing.



■ DC/DC Converters

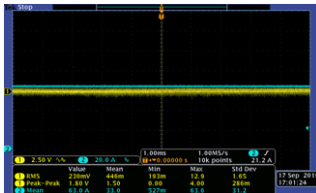
Power batteries of electric vehicle convert DC high voltage to DC low voltage through DC/DC converters, such as 12V/24V of car lamp, wiper and car stereo. Featuring high power and high voltage, ADG⁺ series is suitable to simulate power batteries on different working conditions, such as voltage dip(sag), and voltage ramp or missing. From R&D verification to HALT/HASS Accelerated Life Testing, ADG⁺ series is an ideal choice for DC power supply.



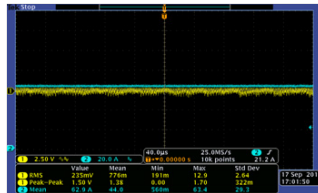
Industry-leading Performance

As an unique high-power single-unit programmable DC power supply, ADG⁺ series has a wide range of output voltage and current, which reach up to 2000V and 2500A continuously adjustable. Its single unit output is up to 300kW and provides customized parallel operation to expand capacity up to 1800kW. It features high power with excellent programming function, fast response and high stability. For communication interface, it has standard RS-485, RS-232, Ethernet, Analog Control, USB and optional GPIB. The STEP & RAMP modes allow easy setup on test sequence and depending on CV/CC/CP settings and load conditions, ADG⁺ series can operate as a current or voltage source.

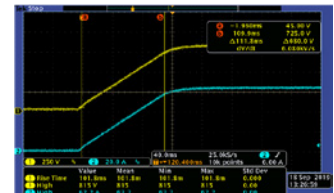
Low Ripple



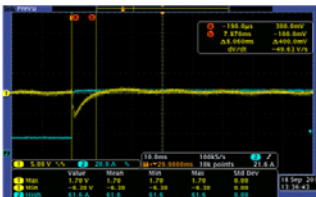
Low Noise



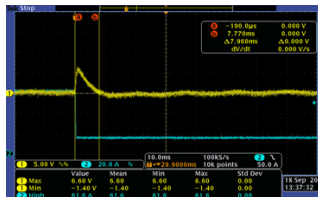
Fast Rise Time



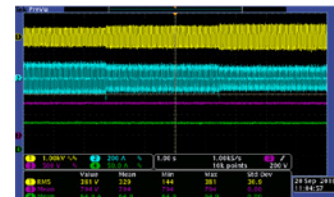
Fast Transient Response When Added Load



Fast Transient Response When Removed Load

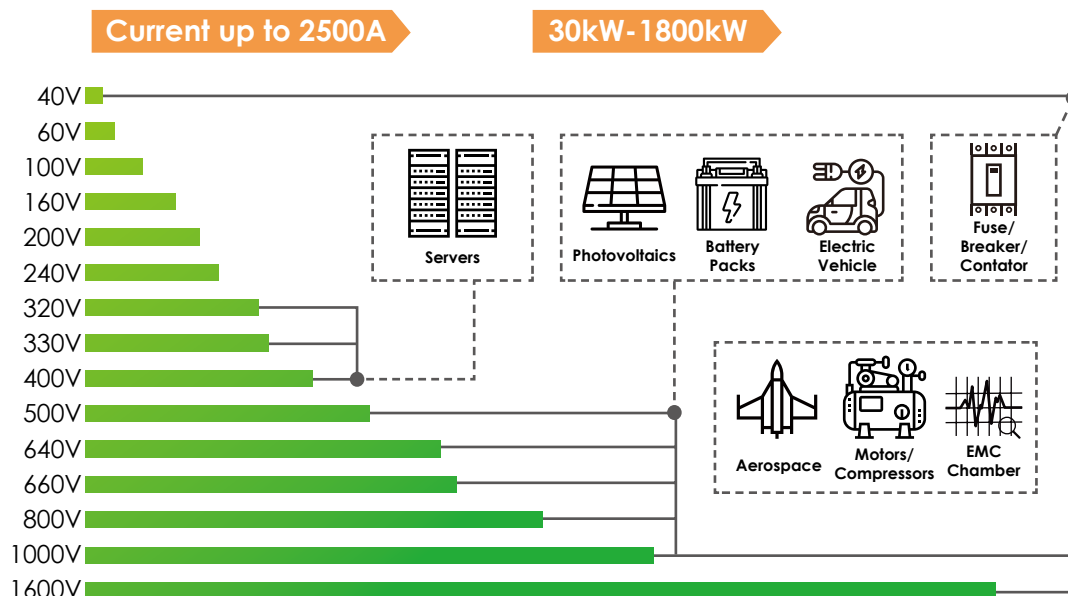


High Stability



Variety of Applications

ADG⁺ series has many output voltage ranges suitable for different market applications. Models over 400V output voltage are applicable for renewable energy, EV, and lithium battery industries. When it comes to circuit breakers, contactors or fuses that require high voltage or current, models with 2500A or 2000V can fulfill the power demands of this type of component testing. The 400V or 320V models can be applied to server related applications due to the increased needs for high voltage DC in data centers.



SPECIFICATIONS

ADG+ Series (30kW-50kW)

Model														
30kW		ADG-PLUS-40-750	ADG-PLUS-60-500	ADG-PLUS-100-300	ADG-PLUS-200-150	ADG-PLUS-240-125	ADG-PLUS-320-94	ADG-PLUS-400-75	ADG-PLUS-500-60	ADG-PLUS-640-47	ADG-PLUS-800-38	ADG-PLUS-1000-30	ADG-PLUS-1600-18	
50kW		ADG-PLUS-40-1250	ADG-PLUS-60-834	ADG-PLUS-100-500	ADG-PLUS-200-250	ADG-PLUS-240-208	ADG-PLUS-320-156	ADG-PLUS-400-125	ADG-PLUS-500-100	ADG-PLUS-640-78	ADG-PLUS-800-63	ADG-PLUS-1000-50	ADG-PLUS-1600-31	
AC Input														
Voltage		3Ø3W+G 323VAC-460VAC (Option 200VAC/208VAC/415VAC/440VAC/480VAC)												
Frequency		47-63Hz												
Power Factor		≥ 90% at maximum power												
DC Output														
Voltage		40V	60V	100V	200V	240V	320V	400V	500V	640V	800V	1000V	1600V	
Current(30kW)		750A	500A	300A	150A	125A	94A	75A	60A	47A	38A	30A	18A	
Current(50kW)		1250A	834A	500A	250A	208A	156A	125A	100A	78A	63A	50A	31A	
Line Regulation		≤ 0.05%												
Load Regulation ^{*1}		≤ 0.1%										≤ 0.034%	≤ 0.02%	≤ 0.05%
Voltage Ripple (RMS)		≤ 0.4% F.S.		≤ 0.1% F.S.			≤ 0.1% F.S.				≤ 0.05% F.S.			
Voltage Noise (Peak)		≤ 2% F.S.					≤ 0.88% F.S.	≤ 0.88% F.S.	≤ 1.34% F.S.	≤ 0.88% F.S.	≤ 0.2% F.S.	≤ 0.2% F.S.	≤ 0.4% F.S.	
Voltage Slew Rate ^{*2}		≤ 50ms		≤ 60ms	≤ 85ms		≤ 100ms	≤ 100ms	≤ 100ms	≤ 115ms	≤ 120ms	≤ 120ms		
Transient Response ^{*3}		≤ 6 ms												
Measurement ^{*4}														
Voltage Accuracy		0.5% F.S.						0.1% F.S						
Voltage Resolution		≤ 100V@ 0.01V, > 100V@0.1V												
Current Accuracy		0.5% F.S. (≥ 1% Rated Current)												
Current Resolution		≤ 100A@ 0.01A, >100A@0.1A												
Power Accuracy		P=V*I Calculated												
Power Resolution		0.01KW												
General														
Mode		CC/CV/CP												
Efficiency ^{*6}		≥ 87% at maximum power for input 380V- 400V ≥ 84% at maximum power for other input voltage				≥ 90% at maximum power for input 380V- 400V ≥ 87% at maximum power for other input voltage								
Interfaces		Standard : RS-232, RS-485, Ethernet, USB, Analog Option : GPIB												
Analog Input Control (V & I)		0-5V, Accuracy: 1% F.S. (at output rated voltage & current ≥ 5%)												
Analog Output Monitor (V & I)		0-5V, Accuracy : 5% F.S.												
Remote Sensing		5% maximum voltage drop from product output to load			3% maximum voltage drop from product output to load						2% maximum voltage drop from product output to load			
Protections		Input : Vin OV, Vin Unbalance Output : OVP, OCP, OPP, OTP, LDC OV, Module OCP, Interlock open												
OVP Range		0-110% F.S.												
OCP Range		0-110% F.S.												
OPP Range		0-110% F.S.												
Operating Temperature		0°C ~ 40°C												
Storage Temperature		-20°C ~ 70°C												
Humidity		0-90%(Non condensing)												
Isolation		Input to Enclosure : 1500VAC Input to Output : 2000VDC Output to Enclosure : 2000VDC												
Dimension(H×W×D) ^{*5}		380VAC Input:1038×600×800 mm / 40.8x23.7x31.5 inch 200VAC/208VAC/480VAC Input:1382×600×800 mm / 54.4x23.7x31.5 inch												
Weight ^{*5}	380VAC	approx. 225 kg / 496.1 lbs				approx. 190 kg / 418.8 lbs								
	200VAC/208VAC/480VAC	approx. 420 kg / 925.9 lbs				approx. 390 kg / 859.8 lbs								

*1 Load changes from 5% to 100% under nominal AC input.

*3 Under nominal AC input, recovers to ±1% of full-scale output voltage for a 50% to 100% or 100% to 50% load change.

*5 Including wheels and weight tolerance is within ± 10 kg.

* Above specifications are under output voltage over 1% F.S. and all specifications are subject to change without notice.

*2 Measured from 10% to 90% of the output voltage change-resistive load, typical.

*4 The specifications are tested at ambient temperature of 25°C ± 5°C .

*6 At maximum output power.

SPECIFICATIONS

ADG⁺ Series (75kW-100kW)

Model							
75kW	ADG-PLUS-40-1875	ADG-PLUS-60-1250	ADG-PLUS-100-750	ADG-PLUS-320-234	ADG-PLUS-640-117	ADG-PLUS-1000-75	ADG-PLUS-1600-47
100kW	ADG-PLUS-40-2500	ADG-PLUS-60-1666	ADG-PLUS-100-1000	ADG-PLUS-320-312	ADG-PLUS-640-156	ADG-PLUS-1000-100	ADG-PLUS-1600-63
AC Input							
Voltage	3Ø3W+G 323VAC-460VAC (Option 200VAC/208VAC/415VAC/440VAC/480VAC)						
Frequency	47-63Hz						
Power Factor	≥ 90% at maximum power						
DC Output							
Voltage	40V	60V	100V	320V	640V	1000V	1600V
Current(75kW)	1875A	1250A	750A	234A	117A	75A	47A
Current(100kW)	2500A	1666A	1000A	312A	156A	100A	63A
Line Regulation	≤ 0.05%						
Load Regulation ^{*1}	≤ 0.1%	≤ 0.1%	≤ 0.1%	≤ 0.05%	≤ 0.05%	≤ 0.05%	≤ 0.05%
Voltage Ripple (RMS)	≤ 0.5% F.S.	≤ 0.5% F.S.	≤ 0.4% F.S.	≤ 0.1% F.S.		≤ 0.1% F.S.	≤ 0.1% F.S.
Voltage Noise (Peak)	≤ 2.5% F.S.			≤ 0.65% F.S.	≤ 0.35% F.S.	≤ 0.3% F.S.	≤ 0.3% F.S.
Voltage Slew Rate ^{*2}	≤ 50ms			≤ 90ms	≤ 120ms	≤ 120ms	≤ 120ms
Transient Response ^{*3}	≤ 10ms						
Measurement ^{*4}							
Voltage Accuracy	0.5% F.S				0.1% F.S		
Voltage Resolution	≤ 100V@ 0.01V, > 100V@0.1V						
Current Accuracy	0.5% F.S. (≥ 1% Rated Current)						
Current Resolution	≤ 100A@ 0.01A, > 100A@0.1A						
Power Accuracy	P=V*I Calculated						
Power Resolution	0.01KW						
General							
Mode	CC/CV/CP						
Efficiency ^{*6}	≥ 87% at maximum power for input 380V- 400V ≥ 84% at maximum power for other input voltage			≥ 90% at maximum power for input 380V- 400V ≥ 87% at maximum power for other input voltage			
Interfaces	Standard : RS-232, RS-485, Ethernet, USB, Analog Option : GPIB						
Analog Input Control (V & I)	0-5V, Accuracy: 1% (at output rated voltage & current ≥ 5%)						
Analog Output Monitor (V & I)	0-5V, Accuracy : 5% F.S.						
Remote Sensing	5% maximum voltage drop from product output to load			3% maximum voltage drop from product output to load		2% maximum voltage drop from product output to load	
Protections	Input : Vin OV, Vin Unbalance Output : OVP, OCP, OPP, OTP, LDC OV, Module OCP, Interlock open						
OVP Range	0-110% F.S.						
OCP Range	0-110% F.S.						
OPP Range	0-110% F.S.						
Operating Temperature	0°C ~ 40°C						
Storage Temperature	-20°C ~ 70°C						
Humidity	0-90%(Non condensing)						
Isolation	Input to Enclosure : 1500VAC, Input to Output : 2000VDC, Output to Enclosure : 2000VDC						
Dimension(H×W×D) ^{*5}	380VAC Input: 1492x600x800 mm / 58.7x23.7x31.5inch						
	75kW : 200VAC/208VAC/480VAC Input: 1837x600x800 mm / 72.3x23.7x31.5 inch						
	100kW : 480VAC Input: 1837x600x800 mm / 72.3x23.7x31.5 inch						
	100kW : 200VAC/208VAC Input: 1897×600×800 mm / 74.7x23.7x31.5 inch						
Weight ^{*5}	380VAC			approx. 345 kg / 760.6 lbs			
	200VAC/208VAC/480VAC			approx. 625 kg / 1377.9 lbs			
				approx. 300kg / 661.3 lbs			
				approx. 574kg / 1265.4 lbs			

*1 Load changes from 5% to 100% under nominal AC input.

*2 Measured from 10% to 90% of the output voltage change-resistive load, typical.

*3 Under nominal AC input, recovers to ±1% of full-scale output voltage for a 50% to 100% or 100% to 50% load change.

*4 The specifications are tested at ambient temperature of 25°C ± 5°C .

*5 Including wheels and weight tolerance is within ± 10 kg.

*6 At maximum output power.

* Above specifications are under output voltage over 1% F.S. and all specifications are subject to change without notice.

SPECIFICATIONS

ADG⁺ Series (300kW)

Model				
300kW	ADG-PLUS-500-900-300		ADG-PLUS-1000-450-300	ADG-PLUS-1500-300-300
AC Input				
Voltage	3Ø3W+G 323VAC-460VAC			
Frequency	47-63Hz			
Power Factor	≥ 90% at maximum power			
DC Output				
Voltage	500V	1000V	1500V	
Current	900A	450A	300A	
Line Regulation	≤ 0.05%			
Load Regulation ^{*1}	≤ 0.1%	≤ 0.05%	≤ 0.03%	
Voltage Ripple (Vrms)	≤ 0.15% F.S.	≤ 0.1% F.S.		
Voltage Noise (Vp-p)	≤ 0.5% F.S.			
Voltage Slew Rate ^{*2}	≤ 150ms			
Transient Response ^{*3}	≤ 20ms			
Measurement ^{*4}				
Voltage Accuracy	≤ 0.2% F.S.			
Voltage Resolution	0.1V			
Current Accuracy	≤ 0.5% F.S. (at ≥ 1% Rated Current)			
Current Resolution	0.1A			
Power Accuracy	P=V*I Calculated			
Power Resolution	0.1KW			
General				
Mode	CC/CV/CP			
Efficiency ^{*6}	≥ 90% at maximum power for input 380V- 400V			
Interfaces	Standard: RS-232, RS-485, Ethernet, USB, Analog Option : GPIB			
Analog Input Control (V & I)	0-5V, Accuracy : 1% F.S. (at output rated voltage & current ≥ 5%)			
Analog Output Monitor (V & I)	0-5V, Accuracy : 5% F.S.			
Remote Sensing	3% maximum voltage drop from product output to load			
Protections	Input : Vin OV, Vin Unbalance Output : OVP, OCP, OPP, OTP, LDC OV, Module OCP, Interlock open			
OVP Range	0-110% F.S.			
OCP Range	0-110% F.S.			
OPP Range	0-110% F.S.			
Operating Temperature	0℃ ~ 40℃			
Storage Temperature	-20℃ ~ 70℃			
Humidity	0-90%(Non condensing)			
Isolation	Input to Enclosure : 1500VAC , Input to Output : 2000VDC , Output to Enclosure : 2000VDC			
Dimension(H×W×D)	2000×1200×1100 mm / 78.7x47.2x43.3 inch			
Weight ^{*5}	approx. 2180kg / 4806 lbs	approx. 2150kg / 4740 lbs		

*1 Load changes from 5% to 100% under nominal AC input.

*2 Measured from 10% to 90% of the output voltage change-resistive load, typical.

*3 Under nominal AC input, recovers to ±1% of full-scale output voltage for a 50% to 100% or 100% to 50% load change.

*4 The specifications are tested at ambient temperature of 25°C ± 5°C .

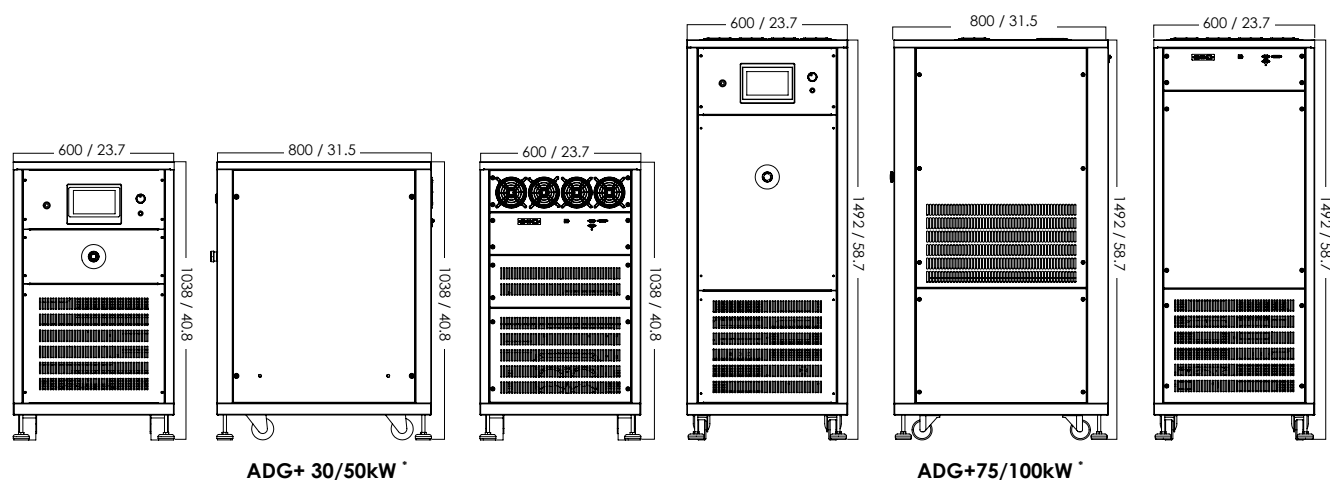
*5 Weight tolerance is within ± 10 kg.

*6 At maximum output power.

* Above specifications are under output voltage over 1% F.S. and all specifications are subject to change without notice.

DIMENSIONS

Unit : mm (inch)



* The diagrams and dimensions are for 380V input models.

ORDERING INFORMATION

ADG+ Series (30kW-300kW)

Model Number	Description	Model Number	Description
ADG-PLUS-40-750	Programmable DC Power Supply (30kW/40V/750A)	ADG-PLUS-100-750	Programmable DC Power Supply (75kW/100V/750A)
ADG-PLUS-60-500	Programmable DC Power Supply (30kW/60V/500A)	ADG-PLUS-320-234	Programmable DC Power Supply (75kW/320V/234A)
ADG-PLUS-100-300	Programmable DC Power Supply (30kW/100V/300A)	ADG-PLUS-640-117	Programmable DC Power Supply (75kW/640V/117A)
ADG-PLUS-200-150	Programmable DC Power Supply (30kW/200V/150A)	ADG-PLUS-1000-75	Programmable DC Power Supply (75kW/1000V/75A)
ADG-PLUS-240-125	Programmable DC Power Supply (30kW/240V/125A)	ADG-PLUS-1600-47	Programmable DC Power Supply (75kW/1600V/47A)
ADG-PLUS-320-94	Programmable DC Power Supply (30kW/320V/94A)	ADG-PLUS-40-2500	Programmable DC Power Supply (100kW/40V/2500A)
ADG-PLUS-400-75	Programmable DC Power Supply (30kW/400V/75A)	ADG-PLUS-60-1666	Programmable DC Power Supply (100kW/60V/1666A)
ADG-PLUS-500-60	Programmable DC Power Supply (30kW/500V/60A)	ADG-PLUS-100-1000	Programmable DC Power Supply (100kW/100V/1000A)
ADG-PLUS-640-47	Programmable DC Power Supply (30kW/640V/47A)	ADG-PLUS-320-312	Programmable DC Power Supply (100kW/320V/312A)
ADG-PLUS-800-38	Programmable DC Power Supply (30kW/800V/38A)	ADG-PLUS-640-156	Programmable DC Power Supply (100kW/640V/156A)
ADG-PLUS-1000-30	Programmable DC Power Supply (30kW/1000V/30A)	ADG-PLUS-1000-100	Programmable DC Power Supply (100kW/1000V/100A)
ADG-PLUS-1600-18	Programmable DC Power Supply (30kW/1600V/18A)	ADG-PLUS-1600-63	Programmable DC Power Supply (100kW/1600V/63A)
ADG-PLUS-40-1250	Programmable DC Power Supply (50kW/40V/1250A)	ADG-PLUS-500-900-300	Programmable DC Power Supply (300kW/500V/900A)
ADG-PLUS-60-834	Programmable DC Power Supply (50kW/60V/834A)	ADG-PLUS-1000-450-300	Programmable DC Power Supply (300kW/1000V/450A)
ADG-PLUS-100-500	Programmable DC Power Supply (50kW/100V/500A)	ADG-PLUS-1500-300-300	Programmable DC Power Supply (300kW/1500V/300A)
ADG-PLUS-200-250	Programmable DC Power Supply (50kW/200V/250A)	ADG-PLUS-001	GPB Interface Converter
ADG-PLUS-240-208	Programmable DC Power Supply (50kW/240V/208A)	ADG-PLUS-002	Cable for RS-485 (10m)
ADG-PLUS-320-156	Programmable DC Power Supply (50kW/320V/156A)	ADG-PLUS-003	200V/208V Input Voltage (30-50kW)
ADG-PLUS-400-125	Programmable DC Power Supply (50kW/400V/125A)	ADG-PLUS-004	480V Input Voltage (30-50kW)
ADG-PLUS-500-100	Programmable DC Power Supply (50kW/500V/100A)	ADG-PLUS-005	200V/208V Input Voltage (100kW)
ADG-PLUS-640-78	Programmable DC Power Supply (50kW/640V/78A)	ADG-PLUS-006	480V Input Voltage (75-100kW)
ADG-PLUS-800-63	Programmable DC Power Supply (50kW/800V/63A)	ADG-PLUS-007	I-V Curve Simulation and Remote Control Software
ADG-PLUS-1000-50	Programmable DC Power Supply (50kW/1000V/50A)	ADG-PLUS-008	200V/208V Input Voltage (75kW)
ADG-PLUS-1600-31	Programmable DC Power Supply (50kW/1600V/31A)	ADG-PLUS-009	Reverse Current Protection Module
ADG-PLUS-40-1875	Programmable DC Power Supply (75kW/40V/1875A)	ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ADG-PLUS-60-1250	Programmable DC Power Supply (75kW/60V/1250A)	ACCS-003	RS-232/RS-485 Cable M-F type (2M)

Full-Range DC Power Supply for Your Needs

Wide voltage range from 0-30V to 0-2000V, with current capability up to 2550A

Designed for demanding applications, the ADG-L series delivers high-density power with exceptional stability and accuracy. Its modular design allows for scalable power up to 75kW, making it ideal for a wide range of industries.

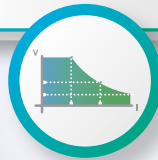
2000V Output

Wide Voltage Range, Ideal for New Energy Applications

2000v
30v

3 Times Auto Range

Lower Voltage, Higher Current



Parallel Connection

Fast Setting, Easy Wiring



NEW



ADG-L series

Programmable DC Power Supply

Interfaces

Standard **RS-232** **RS-485** **USB**
Ethernet **Analog**

Option **GPIO**

QR Code



Product Info.



Product Video

NEW



Output Power

5kW/10kW/15kW

RoHS
Compliant **CE**

Preen's new ADG-L series is a programmable DC power supply with high power density, low noise, and tight regulation. The combination of DSP and PWM technologies has enabled significant advances in stability and measurements.

To meet the needs of emerging low-voltage applications, the ADG-L Series offers multiple low-voltage versions suitable for testing and verification of protection components such as fuses and air circuit breakers. In addition, these models are particularly suitable for AI servers and data center power modules, providing long-term stable testing under unbalanced or fluctuating voltage conditions.

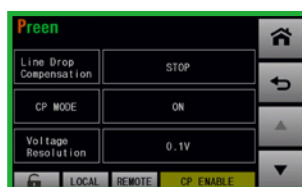
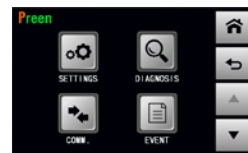
The ADG-L series includes 31 models with 5kW, 10kW and 15kW maximum output powers and several Auto Range models to provide a higher output current at lower output voltage. With

CV/CC/CP modes and its high voltage and high power features, the ADG-L series is an ideal DC power for applications on photovoltaic (PV), electric vehicle (EV), battery charge simulation, fuse, and contactors.

Parallel configuration is available for higher output level. The ADG-L series is operated via the 5" intuitive touch screen or the rotary knob to quickly access measurements, setting parameters, and configurations. The unit can also be controlled via standard RS-232, RS-485, Analog, Ethernet, USB and Analog remote interfaces, or through optional GPIB interface. The built-in simulation function allows devices to be tested on voltage dropouts, spikes and other repetitive testing for voltage and current.

Intuitive Touch Screen and Rotary Knob

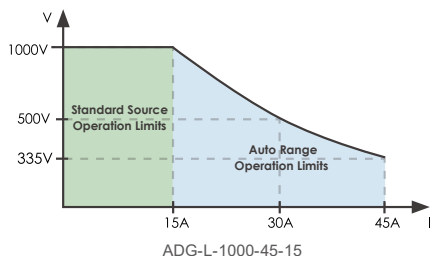
The ADG-L series equips 5" touch screen and rotary knob to provide intuitive display and easy-to-use control. Users can quickly access output settings, measurements, sequences and system configurations from the touch screen. Sophisticated sequences can not only be set from the PC easily but also can be set from the touch screen.



Fine-Tuned Voltage Setting:
voltage resolution can be adjusted by the rotary knob and be selected between 0.1V/1V, which increases the convenience of output voltage setting.



Auto Range Functions



Auto range feature can generate a higher output current at lower output voltage, or a higher output voltage at lower output current. This feature is an ideal solution for both high current/low voltage and low voltage/high current DUT, and makes one unit to cover a wide range of applications to further save cost and space.

Complimentary Control Software and Various Interfaces



The ADG-L series can be controlled via the Preen Program to configure sophisticated sequences, save/recall STEPs, and generate test result reports. This intuitive control software makes remote programming no longer a difficult task.

RS-232 RS-485 Ethernet USB Analog Standard GPIB Optional

The DC power supply is equipped with RS-232/RS-485, Ethernet, USB and Analog for standard interfaces. Optional GPIB are also available for better integrations with automatic test systems and the needs of industry 4.0.

Broader Voltage and Current Range



The ADG-L series delivers highly flexible DC power solutions, ranging from 0-30V to 0-2000V^{*1} with up to 2550A^{*2} output current. Ideal for testing in the renewable energy and electric vehicle components, this series offers precise voltage and current control for various applications.

High Power Density: 15kW in 3U

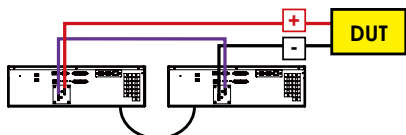


Employing PWM technology and DSP-based control, Preen's ADG-L series DC power supply has 15kW available only in 3U chassis, and with parallel configuration, 30kW only has 6U height.

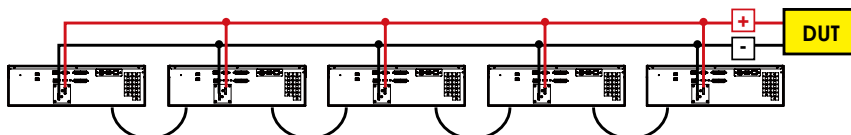
The rack-mount enclosure is designed to accommodate a wide range of applications, especially for automatic test systems and integrations.

Multiple Connections

Series connection (Max. 2 units)



Parallel connection (Max. 5 units)

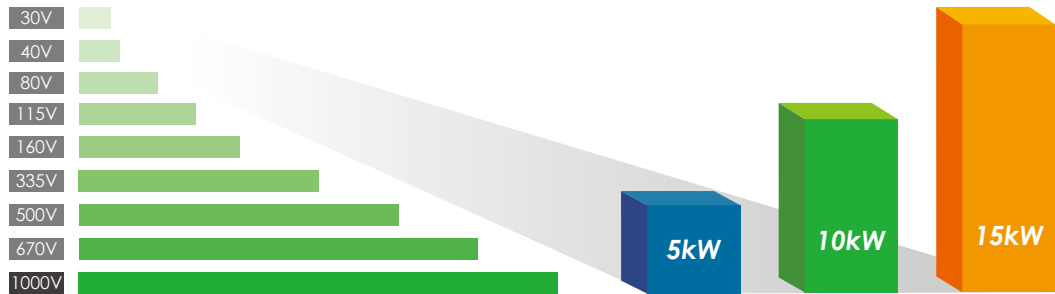


The single unit power of ADG-L series can reach up to 15kW, and can be expanded to 75kW through parallel connection, or can output up to 2000V through series connection. Each unit can be set as Master or Slave. The user can freely combine ADG-L series according to the load test requirements, thereby increases flexibility of the application.

*1 via series connection *2 via parallel connection

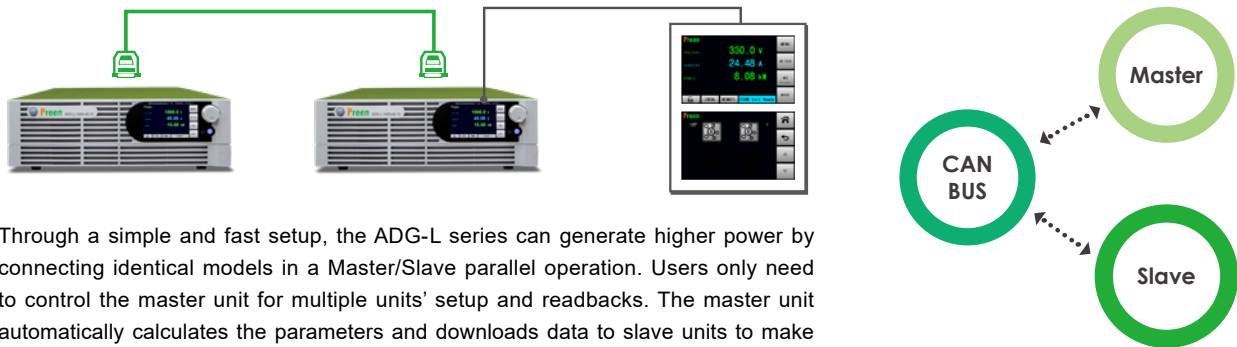
Wide Voltage and Current Range

31 Models



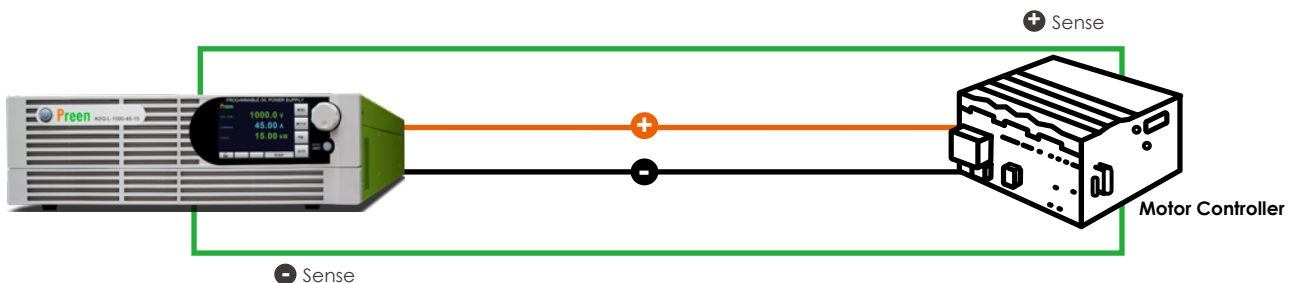
Preen's ADG-L series has 31 different models with three output power levels, 5kW, 10kW and 15kW. With up to 1000V output voltage and multiple Auto Range models, the ADG-L series covers a wide range of applications including electric vehicle, photovoltaic, battery, DC/DC converters and electronic products.

Master/Slave Parallel Operation



Through a simple and fast setup, the ADG-L series can generate higher power by connecting identical models in a Master/Slave parallel operation. Users only need to control the master unit for multiple units' setup and readbacks. The master unit automatically calculates the parameters and downloads data to slave units to make programming easier and current sharing more precise.

Remote Sensing



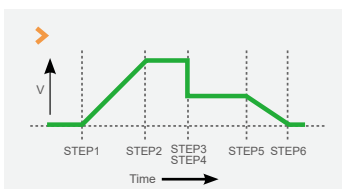
In many laboratories and factories, the DC power supply is located in a certain distance away from the DUT, and sometimes it causes voltage drop due to the resistance of the wires. The ADG-L series' Remote Sensing function is able to compensate voltage drops and provide a stable output voltage.

Screen Lock Password Function

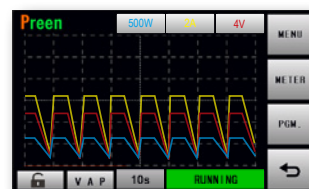


In order to prevent the operator from changing the set parameters by mistake, the new Screen Lock Password function is added on ADG-L series, so that the operator can only perform the output of the device, and only authorized personnel has the password to unlock the screen and edit parameters.

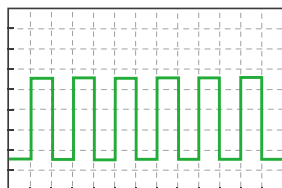
Programming Sequences and Simulations



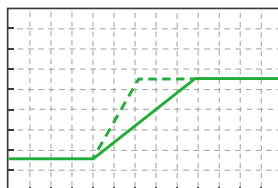
Program Setting Page



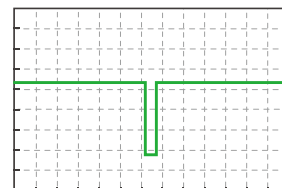
Wave Page



DC Pulse



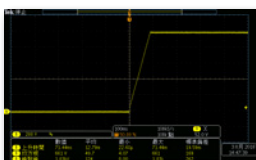
Slew Rate Control



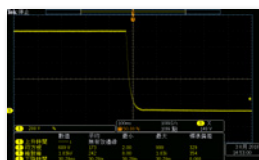
Voltage Sag

The built-in programming function of the ADG-L series has four types: Mode 1 : Group 25 / Step 16, Mode 2 : Group 10 / Step 40, Mode 3 : Group 5 / Step 80, Mode 4 : Group 2 / Step 200. Users can set each STEP's output voltage, output current and time to generate consecutive voltage/current changes or set different rise/fall time. This built-in function and the ADG-L series' control software allow users to create complex DC waveform without sophisticated coding. Making programming the DC power supply an easy task.

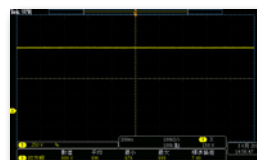
Industry-leading Performance



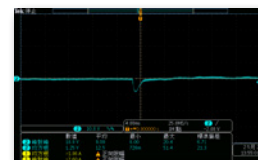
Fast Rise Time



Fast Fall Time



Low Voltage Ripple



Fast Transient Response

The ADG-L series is designed for low ripple, high accuracy and tight regulation for simulating different DC voltages. With fast transient response and rise time, the ADG-L series' DC sources are ideal to test DUT behavior to voltage sags, dropouts, ON/OFF tests and complex DC waveforms.

Multiple Ways of AC Input Connections

Conventional DC power supplies have only one type of AC input range and one way of input wirings. Different from most of high power DC power supply, the ADG-L series models offer more than two ways of input connections. For example, the 10kW models can have single phase or three phase input without factory modifications. This feature provides flexibility and convenience for users to operate the unit in different environments.

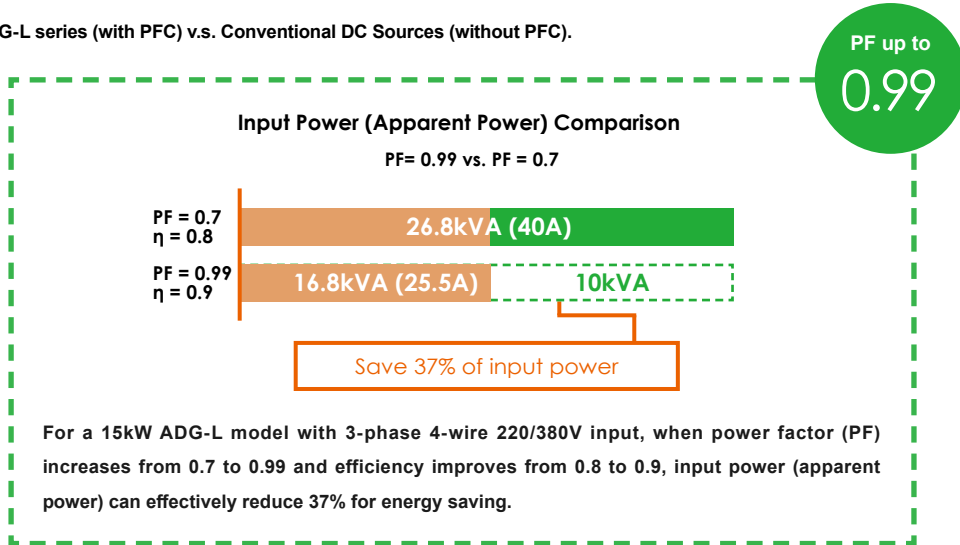
Reverse Current Protection Module (opt.)

ADG-L series has optional Reverse Current Protection Module. When the DUT generates the reverse energy flowing back to the output of ADG-L series it can effectively block the reverse current to protect ADG-L series from possible damages.

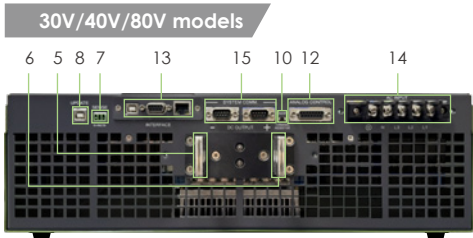
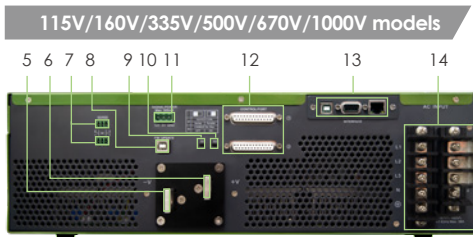
0.99 Input Power Factor

The ADG-L series is equipped with active Power Factor Correction (PFC) to enhance input PF up to industry-leading 0.99, which helps reducing the interference on the grid.

- 01 Effectively increase real power (P) and reduce reactive power (Q) for better energy saving and operation cost.
- 02 Able to suppress peak current and power loss to have lower harmonic distortions.
- 03 Reduce input current to have compact and high power density DC sources.
- 04 Save more energy and lower carbon footprint for better environment.
- 05 The ADG-L series (with PFC) v.s. Conventional DC Sources (without PFC).



PANEL DESCRIPTION



- | | |
|--|---|
| 1. Power Switch | 12. Analog Interface |
| 2. Touch Screen HMI | 13. Communication Interface : |
| 3. Rotary Knob | • USB |
| 4. Output / Reset Button | • RS-232/RS-485(SCPI&MODBUS) |
| 5. DC Negative Output Terminal | • Ethernet |
| 6. DC Positive Output Terminal | • GPIB(opt.) |
| 7. Remote Sense Connector | 14. Input Terminals |
| 8. USB Interface (for firmware update) | 15. System Comm.
(Master-Slave Parallel Interface) |
| 9. Serial and Parallel Switch | |
| 10. CANBUS Terminal Resister Switch | |
| 11. Accessory Power Outlet (5V&12V) | |

ORDERING INFORMATION

ADG-L Series (5kW-15kW)

Model Number	Description
ADG-L-30-170	Programmable DC Power Supply(5kW/30V/170A)
ADG-L-40-125	Programmable DC Power Supply(5kW/40V/125A)
ADG-L-80-62	Programmable DC Power Supply(5kW/80V/62.5A)
ADG-L-80-170-5	Programmable DC Power Supply(5kW/80V/170A) (Auto Range Model)
ADG-L-115-45	Programmable DC Power Supply (5kW/115V/45A)
ADG-L-160-32	Programmable DC Power Supply (5kW/160V/32A)
ADG-L-335-15	Programmable DC Power Supply (5kW/335V/15A)
ADG-L-30-340	Programmable DC Power Supply(10kW/30V/340A)
ADG-L-40-250	Programmable DC Power Supply(10kW/40V/250A)
ADG-L-80-125	Programmable DC Power Supply(10kW/80V/125A)
ADG-L-80-340-10	Programmable DC Power Supply(10kW/80V/340A) (Auto Range Model)
ADG-L-335-45-5	Programmable DC Power Supply (5kW/335V/45A) (Auto Range Model)
ADG-L-115-90	Programmable DC Power Supply (10kW/115V/90A)
ADG-L-160-63	Programmable DC Power Supply (10kW/160V/63A)
ADG-L-335-30	Programmable DC Power Supply (10kW/335V/30A)
ADG-L-335-90-10	Programmable DC Power Supply (10kW/335V/90A) (Auto Range Model)
ADG-L-500-20	Programmable DC Power Supply (10kW/500V/20A)
ADG-L-670-15	Programmable DC Power Supply (10kW/670V/15A)
ADG-L-670-45-10	Programmable DC Power Supply (10kW/670V/45A) (Auto Range Model)
ADG-L-30-510	Programmable DC Power Supply(15kW/30V/510A)
ADG-L-40-375	Programmable DC Power Supply(15kW/40V/375A)
ADG-L-80-187	Programmable DC Power Supply(15kW/80V/187.5A)
ADG-L-80-510-15	Programmable DC Power Supply(15kW/80V/510A) (Auto Range Model)
ADG-L-115-135	Programmable DC Power Supply (15kW/115V/135A)
ADG-L-160-94	Programmable DC Power Supply (15kW/160V/94A)
ADG-L-335-45	Programmable DC Power Supply (15kW/335V/45A)
ADG-L-335-135-15	Programmable DC Power Supply (15kW/335V/135A) (Auto Range Model)
ADG-L-500-30	Programmable DC Power Supply (15kW/500V/30A)
ADG-L-670-23	Programmable DC Power Supply (15kW/670V/23A)
ADG-L-1000-15	Programmable DC Power Supply (15kW/1000V/15A)
ADG-L-1000-45-15	Programmable DC Power Supply (15kW/1000V/45A) (Auto Range Model)
ADG-L-008	Multiple Units Connection Cord DB25 (Male*2) 50 cm
ADG-L-013	GPIB Interface Board
ADG-L-014	Reverse Current Protection Module
ADG-L-015	I-V Curve Simulation and Remote Control Software
ADG-L-017	Input Voltage 3Ø4W+G 340-528 Vac ^{*1}
ADG-L-018	Remote Control Box
ACCS-001	USB to RS-485 converter +RS-232/RS-485 Cable M-F type (2M)
ACCS-003	RS-232/RS-485 Cable M-F type (2M)

^{*1} Only available for models with an output of 115V or above.

* For 30V, 40V, 80V models, please contact us for input voltage options.

SPECIFICATIONS

ADG-L Series (5kW)

Model		ADG-L-30-170	ADG-L-40-125	ADG-L-80-62	ADG-L-80-170-5	ADG-L-115-45	ADG-L-160-32	ADG-L-335-15	ADG-L-335-45-5
Output Power		5kW	5kW	5kW	5kW	5kW	5kW	5kW	5kW
INPUT									
Input Voltage		1Ø 2W+G 187-264 VAC				1Ø 2W+G 187-264 VAC 3Ø3W+G 187-264 VAC 3Ø4W+G 340-460 VAC			
Input Current		30A							
Input Frequency		47 Hz-63 Hz							
Power Factor		≥ 0.99 at max. power				≥ 0.99 at max. power			
OUTPUT									
Voltage		0~30V	0~40V	0~80V	0~80V	0 - 115V	0 - 160V	0 - 335V	0 - 335V
Current		0~170A	0~125A	0~62.5A	0~170A	0 - 45A	0 - 32A	0 - 15A	0 - 45A
Voltage Ripple (RMS) ^{*1}		≤0.15% F.S.	≤0.1% F.S.	≤0.05% F.S.	≤0.08% F.S.	≤0.25% F.S.	≤0.2% F.S.	≤0.08% F.S.	≤0.08% F.S.
Voltage Ripple ^{*1} (peak to peak)		≤2% F.S.	≤1.5% F.S.	≤0.8% F.S.	≤0.8% F.S.	≤1.6% F.S.	≤1.6% F.S.	≤0.8% F.S.	≤0.8% F.S.
Voltage Line Regulation		≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.
Voltage Load Regulation ^{*2}		≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.3% F.S.	≤0.3% F.S.	≤0.1% F.S.	≤0.1% F.S.
Current Ripple (RMS)		≤0.05% F.S.	≤0.08% F.S.	≤0.1% F.S.	≤0.05% F.S.	≤0.25% F.S.	≤0.2% F.S.	≤0.15% F.S.	≤0.15% F.S.
Current Line Regulation		≤0.05% F.S.	≤0.05% F.S.	≤0.05% F.S.	≤0.05% F.S.	≤0.03% F.S.	≤0.03% F.S.	≤0.03% F.S.	≤0.03% F.S.
Current Load Regulation		≤0.15% F.S.	≤0.15% F.S.	≤0.15% F.S.	≤0.15% F.S.	≤0.2% F.S.	≤0.2% F.S.	≤0.2% F.S.	≤0.15% F.S.
Slew Rate ^{*3}	Rise Time	≤ 8ms	≤8ms	≤ 15ms	≤ 15mS	≤ 25ms	≤ 25ms	≤ 30ms	≤ 30ms
	Fall Time (Full Load)	≤ 3ms	≤ 3ms	≤ 8ms	≤ 8mS	≤ 30ms	≤ 30ms	≤ 45ms	≤ 45ms
	Fall Time (No Load)	≤ 3s							
Transient Response ^{*4}		≤ 5ms							
Programming & Measurement									
Voltage Programming Accuracy		≤ 0.08% F.S. +0.01V				≤ 0.08% F.S. +100mV			
Voltage Measurement Accuracy		≤ 0.08% F.S. +0.01V				≤ 0.08% F.S. +100mV			
Voltage Resolution		10mV				100mV			
Current Programming Accuracy		≤ 0.2% F.S. +0.1A				≤ 0.3% F.S. +60mA			
Current Measurement Accuracy		≤ 0.2% F.S. +0.1A				≤ 0.2% F.S. +60mA			
Current Resolution		0.1A				10mA			
Power Programming Accuracy		≤ 0.3% F.S.				≤ 0.4% F.S.			
Power Measurement Accuracy		≤ 0.3% F.S.				≤ 0.4% F.S.			
Power Resolution		0.01kW				0.01kW			
General Specs									
Efficiency ^{*5}		≥ 87% at max. power	≥ 88% at max. power	≥ 90% at max. power		≥ 87% at max. power		≥ 90% at max. power	
Interfaces		Standard: RS-232, RS-485, Ethernet, USB, Analog Option: GPIB							
Analog Input Control (V & I)		0-5V, 4-20mA, Accuracy : 1% F.S. (at output rated voltage & current ≥ 5%)				0-5V, Accuracy : 2%			
Analog Output Monitor (V & I)		0-5V, Accuracy : 2% F.S.				-			
Remote Sensing		≤ 5V							
Operating Temperature		0℃ ~ 40℃							
Storage Temperature		-20℃ ~ 70℃							
Protections		OVP、OCP、OPP、OTP、Vin OV、LDC OV、Remote Error、FAN Error				OVP、OCP、OPP、OTP、Vin OV、Vin Unbalance、LDC OV			
OVP Range		0 - 110% F.S.				0 - 110% F.S.			
OCP Range		0 - 110% F.S.				0 - 110% F.S.			
OPP Range		0 - 110% F.S.				0 - 110% F.S.			
Dimension (HxWxD)		132 x 442 x 731.5 mm / 5.2 x 17.4 x 28.8 inch				132 x 442 x 692 mm / 5.2 x 17.4 x 27.2 inch			
Weight ^{*6}		approx. 20.7kg / 45.7 lbs				approx. 19.1kg / 42.1 lbs			

*1 When output current is ≥ 2% of rated current. *2 The load variation is 0-100% at rated input voltage. *3 The time required for the output voltage to change from 10% to 90% or 90% to 10% at full scale.

*4 Under nominal AC input, recovers to ±1% of full-scale output voltage for a 50% to 100% or 100% to 50% load change. *5 When voltage output is at the max. voltage

*6 weight tolerance is within ±10% * The above is the specification when the output voltage and current are 1% or more

** The company's products are constantly being developed and improved, and the specifications are subject to change without prior notice.

SPECIFICATIONS

ADG-L Series (10kW)

Model		ADG-L-30-340	ADG-L-40-250	ADG-L-80-125	ADG-L-80-340-10	ADG-L-115-90	ADG-L-160-63	ADG-L-335-30	ADG-L-335-90-10	ADG-L-500-20	ADG-L-670-15	ADG-L-670-45-10
Output Power		10kW	10kW	10kW	10kW	10kW	10kW	10kW	10kW	10kW	10kW	10kW
INPUT												
Input Voltage		A: 3Ø4W+G 340-460 Vac B: 3Ø3W+G 187-264 Vac					1Ø 2W+G 187-264 VAC 3Ø3W+G 187-264 VAC 3Ø4W+G 340-460 VAC (Option 3Ø4W+G 340-528 VAC)					
Input Current		A: 3ØY : 52A B: 3ØΔ : 52A					1Ø : 60A 3ØΔ: 35A 3ØY : 19A					
Input Frequency		47 Hz-63 Hz										
Power Factor		≥ 0.99 at max. power										
OUTPUT												
Voltage		0~30V	0~40V	0~80V	0~80V	0 - 115V	0 - 160V	0 - 335V	0 - 335V	0 - 500V	0 - 670V	0 - 670V
Current		0~340A	0~250A	0~125A	0~340A	0 - 90A	0 - 63A	0 - 30A	0 - 90A	0 - 20A	0 - 15A	0 - 45A
Voltage Ripple (RMS) ^{*1}		≤0.25% F.S.	≤0.15% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤ 0.3% F.S.	≤ 0.3% F.S.	≤0.15% F.S.	≤0.15% F.S.	≤0.08% F.S.	≤0.08% F.S.	≤0.08% F.S.
Voltage Ripple (peak to peak) ^{*1}		≤4% F.S.	≤3% F.S.	≤1.5% F.S.	≤2% F.S.	≤ 2.5% F.S.	≤ 2.5% F.S.	≤ 1.6% F.S.	≤ 1.6% F.S.	≤ 0.8% F.S.	≤0.8% F.S.	≤0.8% F.S.
Voltage Line Regulation		≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤ 0.1% F.S.	≤ 0.1% F.S.	≤ 0.1% F.S.	≤ 0.1% F.S.	≤0.03% F.S.	≤0.03% F.S.	≤0.03% F.S.
Voltage Load Regulation ^{*2}		≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤ 0.3% F.S.	≤ 0.3% F.S.	≤ 0.3% F.S.	≤ 0.3% F.S.	≤0.05% F.S.	≤0.05% F.S.	≤0.05% F.S.
Current Ripple (RMS)		≤.05% F.S.	≤0.05% F.S.	≤0.08% F.S.	≤0.05% F.S.	≤ 0.3% F.S.	≤ 0.2% F.S.	≤ 0.3% F.S.	≤ 0.2% F.S.	≤ 0.5% F.S.	≤0.5% F.S.	≤0.25% F.S.
Current Line Regulation		≤ 0.05%F.S.	≤0.05% F.S.	≤ 0.05% F.S.	≤ 0.05% F.S.	≤ 0.1% F.S.	≤ 0.1% F.S.	≤ 0.2% F.S.	≤ 0.2% F.S.	≤ 0.05% F.S. +50mA	≤ 0.05%F.S. +50mA	≤ 0.05%F.S. +50mA
Current Load Regulation		≤0.15% F.S.	≤0.15% F.S.	≤0.15% F.S.	≤0.15% F.S.	≤ 0.2% F.S.	≤ 0.2% F.S.	≤ 0.3% F.S.	≤ 0.3% F.S.	≤0.25% F.S.	≤0.25% F.S.	≤0.25% F.S.
Slew Rate ^{*3}	Rise Time	≤ 8ms	≤ 8ms	≤ 15ms	≤ 15ms	≤ 25ms	≤ 25ms	≤ 30ms	≤ 30ms	≤ 55ms	≤ 60ms	≤ 60ms
	Fall Time (Full Load)	≤ 3ms	≤ 3ms	≤ 8ms	≤ 8ms	≤ 30ms	≤ 30ms	≤ 45ms	≤ 45ms	≤ 45ms	≤ 45ms	≤ 45ms
	Fall Time (No Load)	≤ 3s										
Transient Response ^{*4}		≤ 5ms										
Programming & Measurement												
Voltage Programming Accuracy		≤ 0.08% F.S. +0.01V					≤ 0.08% F.S. +100mV					
Voltage Measurement Accuracy		≤ 0.08% F.S. +0.01V					≤ 0.08% F.S. +100mV					
Voltage Resolution		10mV					100mV					
Current Programming Accuracy		≤ 0.2% F.S. +0.1A					≤ 0.3% F.S. +60mA					
Current Measurement Accuracy		≤ 0.2% F.S. +0.1A					≤ 0.3% F.S. +60mA					
Current Resolution		0.1A					10mA					
Power Programming Accuracy		≤ 0.3% F.S.					≤ 0.4% F.S.					
Power Measurement Accuracy		≤ 0.3% F.S.					≤ 0.4% F.S.					
Power Resolution		0.01kW					0.01kW					
General Specs												
Efficiency ^{*5}		≥ 87% at max. power	≥ 88% at max. power	≥ 90% at max. power		≥ 87% at max. power		≥ 90% at max.power		≥ 87% at max. power	≥ 90% at max. power	
Interfaces		Standard: RS-232, RS-485, Ethernet, USB, Analog Option: GPIB										
Analog Input Control (V & I)		0-5V, 4-20mA, Accuracy : 1% F.S. (at output rated voltage & current ≥ 5%)					0-5V, Accuracy : 2%					
Analog Output Monitor (V & I)		0-5V, Accuracy : 2% F.S.					-					
Remote sense compensation		≤ 5V										
Operating Temperature		0°C ~ 40°C										
Storage Temperature		-20°C ~ 70°C										
Protections		OVP · OCP · OPP · OTP · Vin OV · Vin Unbalance · LDC OV · Remote Error · FAN Error					OVP · OCP · OPP · OTP · Vin OV · Vin Unbalance · LDC OV					
OVP Range		0 - 110% F.S.										
OCP Range		0 - 110% F.S.										
OPP Range		0 - 110% F.S.										
Dimension (HxWxD)		132 x 442 x 731.5 mm / 5.2 x 17.4 x 28.8 inch					132 x 442 x 692 mm / 5.2 x 17.4 x 27.2 inch					
Weight ^{*6}		approx. 28.6kg / 63 lbs					approx. 26.5kg / 58.42 lbs					

*1 When output current is ≥ 2% of rated current. *2 The load variation is 0-100% at rated input voltage. *3 The time required for the output voltage to change from 10% to 90% or 90% to 10% at full scale.

*4 Under nominal AC input, recovers to ±1% of full-scale output voltage for a 50% to 100% or 100% to 50% load change. *5 When voltage output is at the max. voltage

*6 weight tolerance is within ±10% * The above is the specification when the output voltage and current are 1% or more

** The company's products are constantly being developed and improved, and the specifications are subject to change without prior notice.

SPECIFICATIONS

ADG-L Series (15kW)

Model		ADG-L-30-510	ADG-L-40-375	ADG-L-80-187	ADG-L-80-510-15	ADG-L-115-135	ADG-L-160-94	ADG-L-335-45	ADG-L-335-135-15	ADG-L-500-30	ADG-L-670-23	ADG-L-1000-15	ADG-L-1000-45-15
Output Power		15kW	15kW	15kW	15kW	15kW	15kW	15kW	15kW	15kW	15kW	15kW	15kW
INPUT													
Input Voltage		A: 3Ø4W+G 340-460 Vac B: 3Ø3W+G 187-264 Vac				1Ø 2W+G 187-264 VAC 3Ø3W+G 187-264 VAC 3Ø4W+G 340-460 VAC (Option 3Ø4W+G 340-528 VAC)							
Input Current		A: 3ØY : 30A B: 3ØΔ : 52A				1Ø : 90A 3ØΔ: 52A 3ØY : 30A							
Input Frequency		47 Hz-63 Hz											
Power Factor		≥ 0.99 at max. power											
OUTPUT													
Voltage		0~30V	0~40V	0~80V	0~80V	0 - 115V	0 - 160V	0 - 335V	0 - 335V	0 - 500V	0 - 670V	0 - 1000V	0 - 1000V
Current		0~510A	0~375A	0~187.5A	0~510A	0 - 135A	0 - 94A	0 - 45A	0 - 135A	0 - 30A	0 - 23A	0 - 15A	0 - 45A
Voltage Ripple (RMS) ^{*1}		≤0.25% F.S.	≤0.2% F.S.	≤0.15% F.S.	≤0.15% F.S.	≤0.3% F.S.	≤0.3% F.S.	≤0.15% F.S.	≤0.15% F.S.	≤0.15% F.S.	≤0.15% F.S.	≤0.1% F.S.	≤0.1% F.S.
Voltage Ripple (peak to peak) ^{*1}		≤ 4% F.S.	≤ 3% F.S.	≤ 1.5% F.S.	≤ 2% F.S.	≤ 1.6% F.S.	≤ 1.6% F.S.	≤ 1% F.S.	≤ 1% F.S.	≤ 0.8% F.S.	≤ 0.8% F.S.	≤ 0.5% F.S.	≤ 0.5% F.S.
Voltage Line Regulation		≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.
Voltage Load Regulation ^{*2}		≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.2% F.S.	≤0.2% F.S.	≤0.2% F.S.	≤0.2% F.S.	≤0.2% F.S.	≤0.2% F.S.	≤0.1% F.S.	≤0.1% F.S.
Current Ripple (RMS)		≤ 0.05% F.S.	≤ 0.05% F.S.	≤ 0.08% F.S.	≤ 0.05% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.15% F.S.	≤0.1% F.S.	≤0.25% F.S.	≤0.25% F.S.	≤0.5% F.S.	≤0.25% F.S.
Current Line Regulation		≤ 0.05% F.S.	≤ 0.05% F.S.	≤ 0.05% F.S.	≤ 0.05% F.S.	≤0.05% F.S. +50mA	≤ 0.05% F.S. +50mA	≤ 0.05% F.S. +50mA	≤ 0.05% F.S. +50mA	≤ 0.05% F.S. +50mA	≤ 0.05% F.S. +50mA	≤ 0.05% F.S.	≤ 0.05% F.S.
Current Load Regulation		≤0.15% F.S.	≤0.15% F.S.	≤0.15% F.S.	≤ 0.15% F.S.	≤0.1% F.S.	≤0.1% F.S.	≤0.2% F.S.	≤0.2% F.S.	≤0.3% F.S.	≤0.3% F.S.	≤0.3% F.S.	≤0.3% F.S.
Slew Rate ^{*3}	Rise Time	≤ 8ms	≤ 8ms	≤ 15ms	≤ 15ms	≤ 25ms	≤ 30ms	≤ 30ms	≤ 30ms	≤ 55ms	≤ 60ms	≤ 90ms	≤ 90ms
	Fall Time (Full Load)	≤ 3ms	≤ 3ms	≤ 8ms	≤ 8ms	≤ 30ms	≤ 45ms	≤ 45ms	≤ 45ms	≤ 45ms	≤ 45ms	≤ 40ms	≤ 40ms
	Fall Time (No Load)	≤ 3s											
Transient Response ^{*4}		≤ 5ms											
Programming & Measurement													
Voltage Programming Accuracy		≤ 0.08% F.S. +0.01V				≤ 0.08% F.S. +100mV							
Voltage Measurement Accuracy		≤ 0.08% F.S. +0.01V				≤ 0.08% F.S. +100mV							
Voltage Resolution		10mV				100mV							
Current Programming Accuracy		≤ 0.2% F.S. +0.1A				≤ 0.4% F.S. +60mA							
Current Measurement Accuracy		≤ 0.2% F.S. +0.1A				≤ 0.4% F.S. +60mA							
Current Resolution		0.1A				10mA							
Power Programming Accuracy		≤ 0.3% F.S.				≤ 0.4% F.S.							
Power Measurement Accuracy		≤ 0.3% F.S.				≤ 0.4% F.S.							
Power Resolution		0.01kW				0.01kW							
General Specs													
Efficiency ^{*5}		≥ 87% at max. power	≥ 88% at max. power	≥ 90% at max. power		≥ 87% at max. power		≥ 90% at max. power		≥ 87% at max. power	≥ 90% at max. power		
Interfaces		Standard: RS-232, RS-485, Ethernet, USB, Analog Option: GPIB											
Analog Input Control (V & I)		0-5V, 4-20mA, Accuracy : 1% F.S. (at output rated voltage & current ≥ 5%)				0-5V, Accuracy : 2%							
Analog Output Monitor (V & I)		0-5V, Accuracy : 2% F.S.				-							
Remote sense compensation		≤ 5V											
Operating Temperature		0°C ~ 40°C											
Storage Temperature		-20°C ~ 70°C											
Protections		OVP・OCP・OPP・OTP・Vin OV・Vin Unbalance・LDC OV											
OVP Range		0 - 110% F.S.											
OCP Range		0 - 110% F.S.											
OPP Range		0 - 110% F.S.											
Dimension (HxWxD)		132 x 442 x 731.5 mm / 5.2 x 17.4 x 28.8 inch				132 x 442 x 692 mm / 5.2 x 17.4 x 27.2 inch							
Weight ^{*6}		approx. 34.4kg / 76 lbs				approx. 31.8kg / 70.1lbs							

*1 When output current is ≥ 2% of rated current. *2 The load variation is 0-100% at rated input voltage. *3 The time required for the output voltage to change from 10% to 90% or 90% to 10% at full scale.

*4 Under nominal AC input, recovers to ±1% of full-scale output voltage for a 50% to 100% or 100% to 50% load change. *5 When voltage output is at the max. voltage

*6 weight tolerance is within ±10% * The above is the specification when the output voltage and current are 1% or more

** The company's products are constantly being developed and improved, and the specifications are subject to change without prior notice.



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