PS-AFV-P series

Preliminary

MANOR TECHNOLOGY INC

High Performance Programmable AC Power Source

- Output Frequency up to **15-1000Hz**
- Transient Generation for Disturbance Tests
- Fast Response Time: ≦ 300uS

- AC Source with DC output **AC+DC**
- 600VA to 5kVA only in 2U or 5U
- Low THD: ≦ 0.3% - 0.8%

- **Multiple Simulation Functions**
- Complete Interface Options: RS232 / RS485 / Ethernet / USB / GPIB
- Intuitive Touch Screen HMI

AC + DC
Power Solutions

PS-AFV-P series

USB | RS232 | RS485 | Ethernet | GPIB | Analog Control

High Performance Programmable AC Power Source

The PS-AFV-P Series is a programmable AC power source with DC output and precision measurements. This compact power source comes in four power levels, 600VA, 1250VA, 2500VA and 5000VA, providing clean power with distortion less than 0.3% at 50/60Hz. The PS-AFV-P series can deliver output voltage from 0 to 310VAC and frequency from 40 to 500Hz (Opt. 15 to 1000Hz). It is ideal for commercial, defense and aerospace test applications from design verification, quality assur-ance, ATE to mass production.

Atotal of 1200 test steps in 50 built-in memories and transient generation functions provide simulation of voltage variations, surges, drops and frequency disturbances. With the state-of-the-art PWM technology, the PS-AFV-P series is capable of delivering up to 4.5 times of peak current from its max. rated current that makes it ideal for inrush current testing. Users can also set up the starting and ending phase angle from 0 to 360 degrees.

The PS-AFV-P series comprises measurement features of rms voltage, rms current, true power, apparent power, power factor, crest factor, reactive power and etc. Its 4.3" touch screen with rotary knob allows quick adjustments and configurations of voltage, current, and frequency. Users can also remotely control the AC source via standard interfaces of USB,
RS232/RS485, LAN or optional GPIB and analog control. Free control software and LabVIEW driver are available for easy programming and remote control.

- ***Compact & High Power Density***

2U/5U 2U: 600VA / 1250VA / 2500VA
5U: 5000VA

- ***AC Source with DC Output***

DC Extend the applications to DC type testing

- ***Ideal for Inrush Current***

4.5 peak/rms Capable of delivering up to 4.5 times of peak current

- ***Wide Output Voltage & Frequency***

0-310V **15-1000Hz**

- ***Low Distortion (THD)***

≦0.3% THD is only <0.3% when output is <100Hz

- ***Current Foldback Feature***

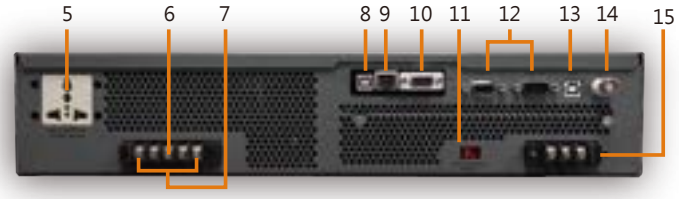
CC Current foldback feature will have output current maintain constant based on the load while output voltage varies

PANEL DESCRIPTION

1. Power Switch
2. Touch Screen HMI
3. Rotary Knob
4. Output / Reset
5. AC Output Terminal
6. Output Terminal
7. Remote Sense
8. USB Interface
9. Ethernet Interface
10. RS232 / RS485
11. Input Range Selector
12. PLC Remote In/Out
13. USB for System (not used)
14. Sync. Singal I/O
15. Input Terminal

Front Panel Overview

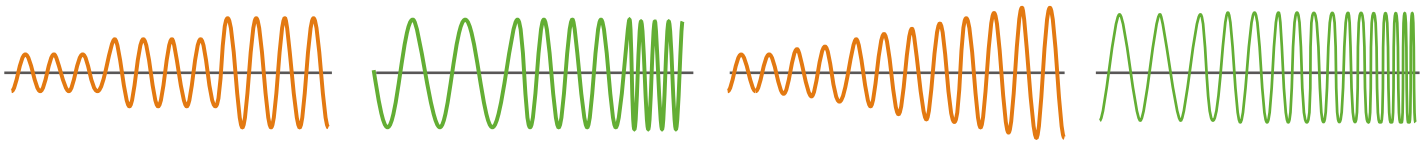
Rear Panel Overview



Preliminary

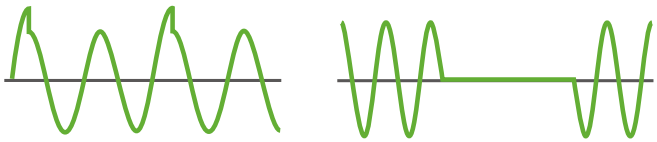
Key Features of PS-AFV-P Series

Sweep & Ramp Test



The PS-AFV-P series offers an easy and convenient method to execute a single step or continuous output changes. The sweep function is ideal for voltage and frequency variation tests. The response time of voltage and frequency changes are within one cycle. User can also use the ramp function to adjust slew rate of voltage and frequency changes. Ramp function can also effectively reduce the inrush current during motor startup. There are up to 50 memories can be stored and recalled; each memory has 24 steps for user to set up.

Transient Generation



Transient generation is an extended feature that provides the users an easy setup for power line disturbance simulation. Common waveform disturbances such as surge, sag, spikes, and dropouts can be generated for application like immunity test.

Intuitive Touch Panel

Users can quickly select the parameters via 4.3 inches touch panel or rotary knob, which provides an easy operation and measure-ment display.

Start/End Angle & High Peak Current for Inrush Current

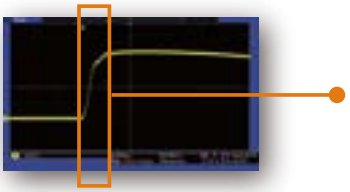
90° Start Angle *Inrush Current for 90° Start Angle* *90° End Angle*

PS-AFV-P Series is capable of providing high output peak current (max. 4.5 peak/rms). This feature makers it ideal for inrush current happened in motor testing. Users can also define the start and end phase angle from 0° to 360°, which is suitable for switching power inrush testing.

Control Software

PS-AFV-P series provides control software and Labview driver that allow users to easily setup the remote control for the power source without further need of programming.

Fast Slew Rate



Measurement

<300 µs

For tests like sags, surges, dropouts, or spikes, slew rate is a critical factor. PS-AFV-P series is a high performance AC source that has a high slew rate of less than 300 µs from 0~90% output voltage. It allows users to do pre-compliance test such as IEC-61000-4-11 or MIL-STD-704F.

SPECIFICATIONS

Preliminary

Model		PS-AFV-P-600	PS-AFV-P-1250	PS-AFV-P-2500	PS-AFV-P-5000
INPUT					
Phase		Single			
Voltage		98~132VAC / 196~264VAC		196~264VAC or 175~235VAC	
Frequency		47 Hz - 63 Hz			
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 Resolution		0.1Vrms			
Frequency		40-500Hz (opt. 15-1000Hz)			
Frequency Resolution		0.1Hz, 1Hz at >100Hz			
Max. Currnet (RMS)		5A / 2.5A	10A / 5A	20A / 10A	40A / 20A
Max. Currnet (Peak)		22.5A / 11.3A	45A / 22.5A	90A / 45A	180A / 90A
Total Harmonic Distortion (THD)		≦0.3% at 40-100Hz, ≦0.5% at 101-500Hz, ≦0.8% at 501-1000Hz (Resistive Load)			
Line Regulation		± 0.1V			
Load Regulation		≦0.07% F.S. (Resistive Load)			
Response Time		≦ 300uS			
Crest Factor		≧ 3			
Inrush Current		≧ 4.5 times max. output current (r.m.s)			
DC OUTPUT					
Power		300W	600W	1250W	2500W
Voltage Ranges		0 - 210V / 0 – 420V			
Max. Currnet		2.5A / 1.25A	5A / 2.5A	10A / 5A	20A / 10A
Ripple & Noise (RMS)		≦ 0.15%			≦ 0.24%
MEASUREMENT					
Voltage Range		0 - 420Vrms			
Voltage Accuracy		±(0.2% of reading + 5 counts)			
Voltage Resolution		0.1V			
Frequency Range		15 - 1000Hz			
Frequency Accuracy		±0.1Hz at 40.0 - 500Hz, ±0.2Hz at 501 - 1000Hz			
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		±(1% of reading + 5 counts) at 40.0 - 500Hz, ±(1% of reading + 10 counts) at 501 - 1000Hz			
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 40.0 - 500Hz, ±(1% of reading + 10 counts) at 501 - 1000Hz			
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) @ 40 - 500Hz, ±(2% of reading + 15 counts) @ 501 - 1000Hz			
Power Resolution		Hi: 1W / Lo: 0.1W			Hi: 1W
GENERAL					
Efficiency		≧ 80% at max. power			
Protection		OVP, OCP, LVP, OPP, OTP, RCP, Fan Fail			
Remote Interface		Standard: RS232 / RS485 / Ethernet / USB / PLC Remote In&Out, Option: GPIB / Analog Control			
Over Current Foldback		CC Mode (Constant Current)			
Output Sync Signal		ON, Event for Voltage or Frequency Change (Output signal 5V , BNC type)			
Memories		50 Memories & 1200 Steps (24 Steps/Memory)			
Operating Temperature		0℃ - 40℃			
Dimensions (HxWxD)		89 x 442 x 450 mm		89 x 442 x 600 mm	222.5 x 442 x 600 mm
Weight		approx. 16 kg	approx. 20 kg	approx. 31.3 kg	approx. 70 kg

* All specifications are subject to change without notice.

Manor Technology Inc.
P.O. 718 Manorville, NY 11949 USA
Telephone:+ l-516-960-6508
Website: www.manor-tech.com
Email: Sales@manor-tech.com

Version: AFV-P-160814EN-letter_Preliminary