AFV-P Series

600VA to 5kVA

CE

High Performance Programmable AC Power Source

INTEPRO SYSTEMS

THE POWER TEST EXPERTS

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Preen®

AFV-P Series

600VA to 5kVA

AFV-P pictured above.
See product specification tables for options and sizes.

Product Overview

Intepro's AFV-P Series is a programmable AC/DC output power source with precision measurement and control. 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 AFV-P series delivers output voltage from 0 to 310VAC and frequency from 40 to 500Hz or 15 to 1000Hz with the high frequency option. It is ideal for commercial, defense and aerospace test applications to design verification, quality assurance, ATEs. The AFV-P Graphical Users Interface software makes it easy to setup complex testing of the AC input to the UUT.

The internal memory stores up to 1200 transients in 50 registers. Transient generation functions provide simulation of voltage variations, surges, drops and frequency disturbances. With the state-of-the-art PWM technology, the AFV-P series is capable of delivering up to 4.5 times of peak current (crest factor) from its max rated current. That makes it ideal for switching power supply test. User defined Start and End phase angle is available from 0 to 360 degrees.

The AFV-P series measurement features include rms voltage, rms current, true power, apparent power, power factor, crest factor and reactive power. Its 5" touch screen with rotary knob allows quick adjustments and configurations of voltage, current, and frequency. Users can 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.

Featured Benefits

Compact & High Power Density

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

Ideal for Inrush Current

- *Capable of delivering up to 4.5 times of peak current*

Multiple Simulation Functions

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

Output Frequency up to 15-1000Hz

- *Transient Generation for Disturbance Tests*
- *Fast Response Time: ≦300uS*

Low Distortion (THD)

- *THD is only <0.3% when output is <100Hz*

AC Source with DC Output

- *300W to 2.5kW in 2U to 5U*
- *Low: ≦0.3% at <100Hz*
- *Extend the applications to DC type testing*

Wide Output Voltage & Frequency

- *0-310V L-N*
- *40-500 Hz (15-1000 Hz optional)*

Current Fold Back Feature

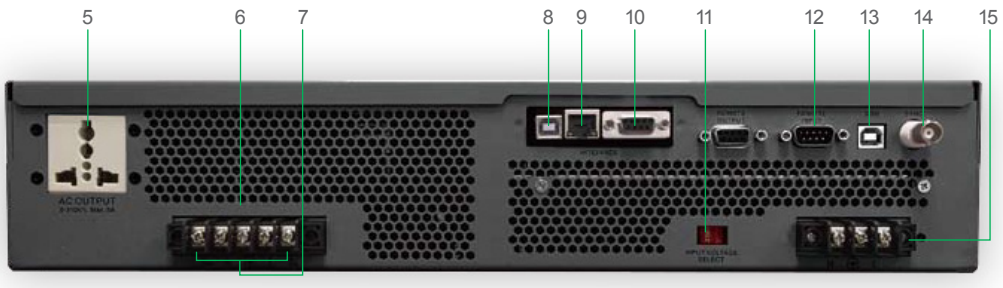
- *Current fold back feature will have output current maintain constant based on the load while output voltage varies*

Panel Description

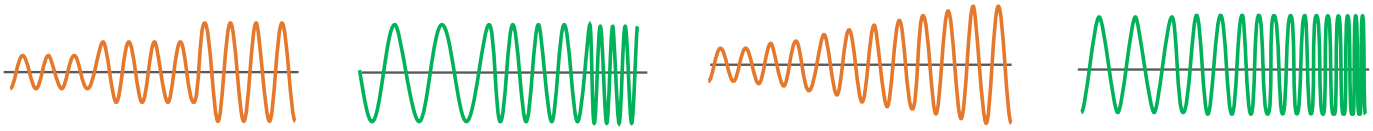
1. Power Switch
2. Touch Screen HMI
3. Rotary Knob
4. Output / Reset
5. AC Output Terminal
6. Output Terminal
7. Remote Sense
8. USB Interface
9. Ethernet Interface
10. RS232 / RS485
11. Input Range Selector
12. PLC Remote In/Out
13. USB for System *(not used)*
14. Sync. Singal I/O
15. Input Terminal

Front Panel Overview

Rear Panel Overview

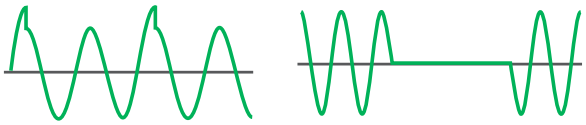


Sweep & Ramp Test



The 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. Users 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 50 memory locations, each having 24 individual steps for the user to set up. All 50 locations can be run continuously, providing the user with the ability to create sequences containing up to 1,200 steps.

Transient Generation

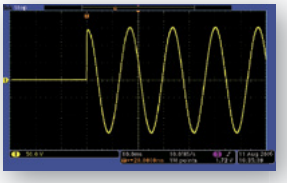


Transient generation is an extended feature that provides the users an easy setup for power line disturbance simulation. Common waveform disturbances such as surge, sag, spikes, and dropouts can be generated for applications like immunity test.

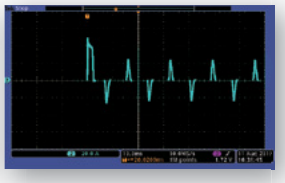
Intuitive Touch Panel

Users can quickly select the parameters via 5” touch panel or rotary knob, which provides for easy operation and measurement display.

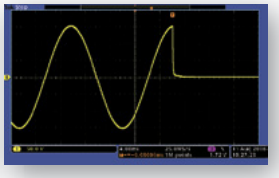
Start/End Angle & High Peak Current for Inrush Current



90° Start Angle



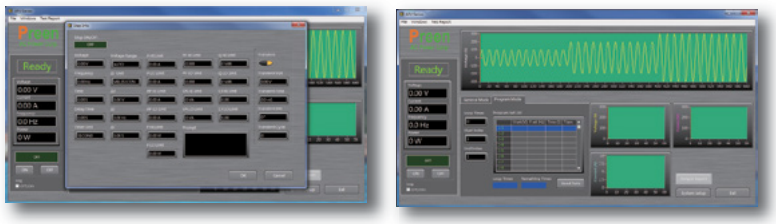
In rush Current for 90° Start Angle



90° End Angle

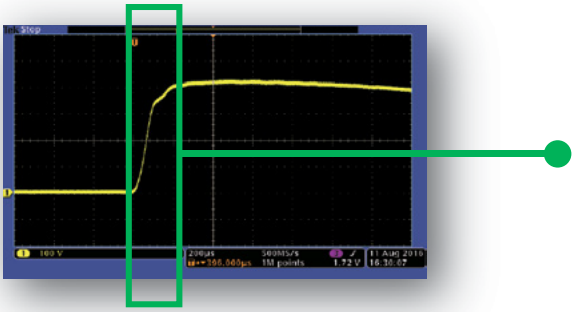
The AFV-P Series is capable of providing high output peak current (max. 4.5 peak/rms), making it ideal to handle inrush currents required for motor testing. Users also have the ability to set and preview their start/ end angle.

Control Software



The AFV-P Series provides control software and LabVIEW driver that allows users to easily setup remote control for the power source without further need of programming.

Fast Slew Rate



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

Specifications

Model		AFV-P-600	AFV-P-1250	AFV-P-2500	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					
Current	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. 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 15-40Hz (optional), ≤ 0.3% at 40-100Hz, ≤ 0.5% at 101-500Hz, ≤ 0.8% at 501-1000Hz (optional) (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. Current		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°C - 40°C			
Dimensions (HxWxD)		3.5 in x 17.5 in x 17.8 in		3.5 in x 17.5 in x 23.7 in	8.76 in x 17.5 in x 23.7 in
Weight		35.3 lbs	44.1 lbs	69 lbs	154.4 lbs

** All specifications are subject to change without notice.*

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