ADAPTIVE POWER SYSTEMS

5L & 5P SERIES DC LOADS

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Key features:

- 600W, 1200W or 1800W per Chassis (5L Series)
- 14,400W per Cabinet (5P Series)
- Low Voltage Range, 0 - 60 Vdc
- Current Ranges up to 1000 Adc
- High-Speed 5 Digit Precision Metering Capability
- Parallel Operation for High Power Applications
- Synchronized Operation of Multiple Loads
- Operating Modes: CC, CP, CR and CV
- Static and Dynamic CC Modes
- Fast Current Slew Rates
- Built-in Short Circuit Test
- Built-in Power Supply Over Current Protection Test Mode
- Built-in Power Supply Over Power Protection Test Mode
- Go/NoGo Test Support
- Auto-Sequencing
- High Power Load Cabinets
- Available Interface Options are USB, RS232, GPIB and LAN

GPIB RS232 USB LAN

PPST SOLUTIONS

CE

OVERVIEW

The ADAPTIVE POWER 5L Series Programmable DC Electronic Loads are ideally suited for testing low voltage, high current power supplies and batteries. With their ability to draw full current starting as low as 0.6 Vdc, the 5L Series loads can provide a wide dynamic range of load conditions.

Target applications for these loads are research & development, production test, incoming inspection, quality control and service.

The high power density of 1800W in a 4U high, single 19" wide rack-mount mainframe represents industry leading power density. The 5L Series consists of a total of six different models, providing a wide variation of possible current and power ranges. Starting at 600 Watt and ranging to 1800 Watt per chassis, all models offer dual voltage and current range capability for optimal accuracy and resolution.

HIGH POWER 5P SERIES CABINET SYSTEMS

For high current load requirements, the 5P Series of Load Cabinets combines two or more 5L Series rack mount units into an integrated load cabinet system. These systems contain all necessary input wiring and output bus bars to handle DC current up to 1000 Adc. These systems are ideally suited for burn in and battery discharge test applications up to 60 Vdc and as low as 0.6Vdc.

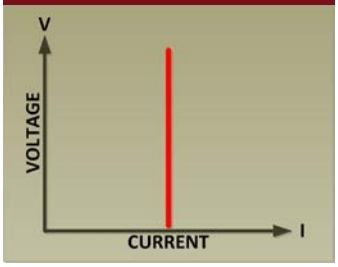
The 5P Series offers high power load performance and durability at an affordable price point.

OPERATING MODES

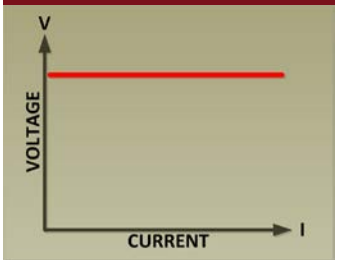
All 5L & 5P Series loads support several modes of operation to accommodate a wide range of test requirements. Voltage sources like AC/DC power supplies are best tested using Constant Current (CC) mode. Battery chargers on the other hand can be tested using an E-load in Constant Voltage (CV)mode.

The available operating modes are Constant Current, Constant Voltage, Constant Power and Constant Resistance. A graphical representation of these modes of operation is shown here.

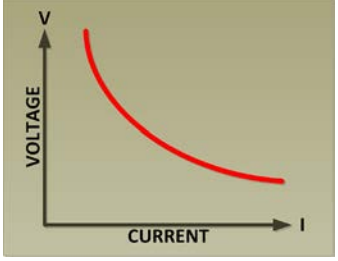
CONSTANT CURRENT



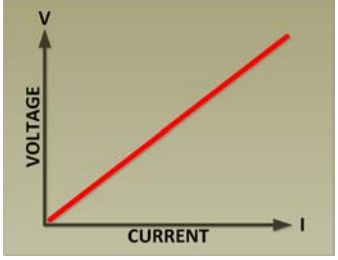
CONSTANT VOLTAGE



CONSTANT POWER



CONSTANT RESISTANCE

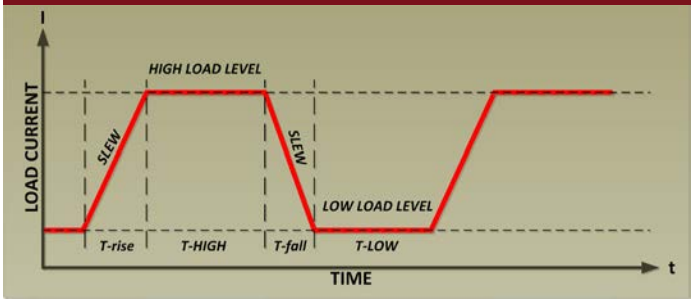


STATIC & DYNAMIC MODES

The demands put on power supplies to support increasingly complex electronics systems continue to escalate. It is no longer sufficient to test power supplies for static load conditions. Instead, dynamic load conditions requiring rapid changes in current demanded from the power supply need to be evaluated and tested. The 5L & 5P Series Loads serve this purpose by offering high speed programmable dynamic load control.

The diagram below illustrates the variable load current slew rates and dwell times that can be programmed on the 5L & 5P Series loads.

DYNAMIC LOAD WAVEFORM



Sequences of variable slew rates and test levels can be stored in non-volatile memory for recall during dynamic transient load test execution. This makes it possible to simulate real-world demanding load conditions on power supplies driving modern electronics. With current slew rates ranging up to several Amps per microsecond and dwell times down to 50 microseconds, thorough transient stability testing of power supply designs is possible. Advanced remote sense and control feedback loops ensure stable and repeatable testing with little or no distortion during load transitions.

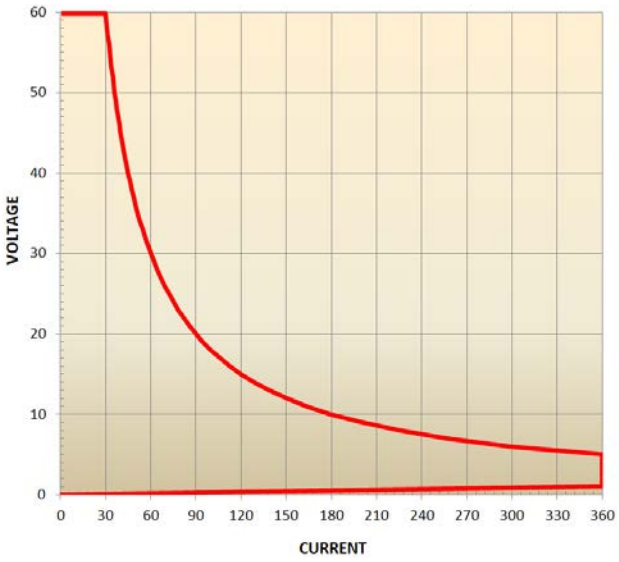
FLEXIBLE INPUT CAPABILITIES

5L Series loads are designed to accommodate a wide range of current input values within their maximum voltage and power capability. This allows the same loads to be used for higher voltage and low current requirements as well as low voltage higher current applications. A typical V-I operating curve is shown on the right for load model 5L18-36. Bounded by the maximum voltage of 60Vdc and maximum current of 360A, the input range follows an 1800W power curve as shown.

Each load continuously tracks its input voltage current and power and safeguards against any operation outside of its operating limits.

This flexible operating range allows the same load to be used for a wide range of EUTs and provides great flexibility.

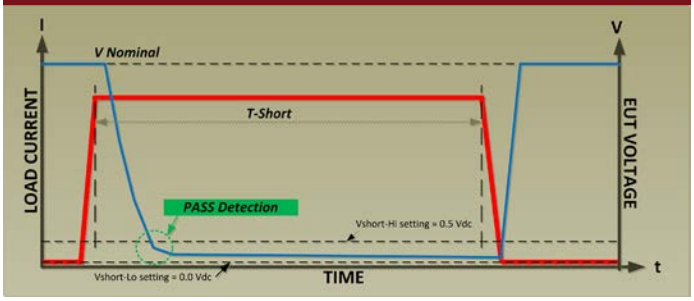
5L18-36



SHORT CIRCUIT TESTING

Power supplies and batteries must be able to handle short circuit conditions without failing. The 5L & 5P Series loads have a built-in short circuit test mode that allows easy PASS/FAIL detection as part of a test protocol. Programmable parameters short duration time (T-short) and Hi and Lo voltage limits for the EUT during short conditions. If the sensed voltage falls within the user-defined limits, a PASS is recorded.

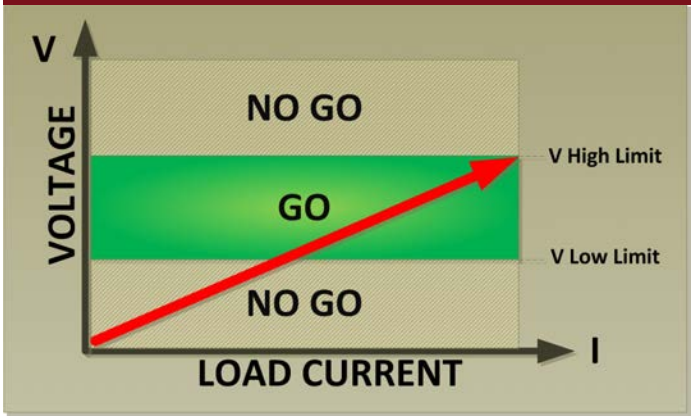
PASS/FAIL SHORT CIRCUIT TEST MODE



GO/NOGO LIMIT TESTING

The GO/NG mode of operation is a convenient way to automatically check any measured parameter like voltage, current or power against predefined upper and lower limits. Once set, the load continuously compares readings against these limits and issues a GO or NoGo error output.

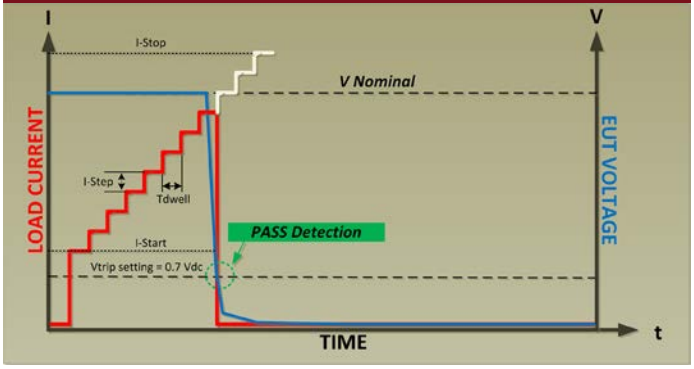
GO/NOGO LIMIT TEST MODE



OCP MODE TESTING

Testing the Over Current Protection (OCP) function of a power supply is easy when using the APS DC load. A special OPC mode allows setting of start current, end current and step size versus time. A preset voltage threshold level is used to detect protection trip current and terminate the test with either a PASS or FAIL result.

AUTOMATED OCP TEST



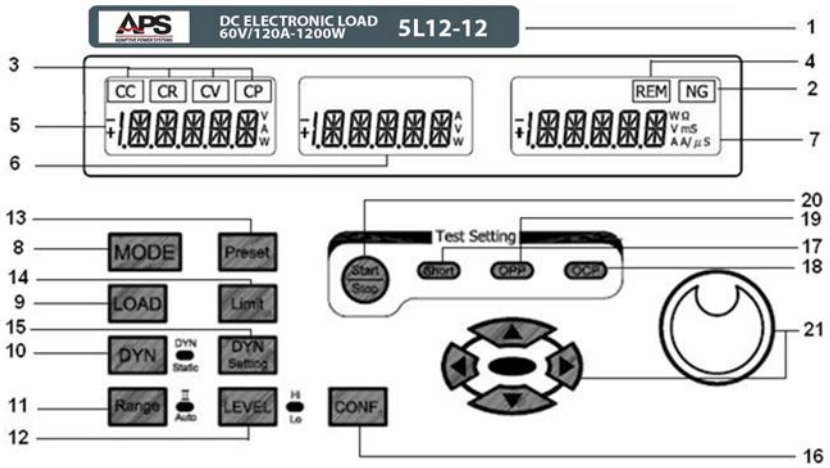
OPP MODE TESTING

In addition to the OCP Test function, an Over Power Protection (OPP) test is provided as well. Conceptually, the test method is similar to the OCP test but instead of stepping the current, the power drawn by the load is stepped instead until the power supplies goes into protective shutdown or fold-back.

FRONT PANEL OPERATION

The 5L Series Load has an easy to use front panel layout consisting of large white LED back-lit LCD readouts and a keypad, shuttle combination for settings and parameter entry. Status indicator LED's accompany the various function and mode setting keys so the operational state of the DC load is easily observed by the operator. The digital rotary encoder makes slewing of parameters very intuitive.

1. Model Number and ranges
2. Go/NoGo indicator illuminates if upper or lower limit settings are exceeded.
3. Operating Mode Indicators
4. REMOTE state indicator
5. Multi-purpose 5 digit display - Voltage
6. Multi-purpose 5 digit display - Current
7. Multi-purpose 5 digit display - Power
8. MODE selection key
9. LOAD ON/OFF button and indicator
10. DYNAMIC mode button and indicator



11. High or Low Range Selection and indicator
12. High or Low Load Setting Selection and indicator
13. Preset Mode ON/OFF
14. Limit Setup Menu
15. DYNAMIC mode settings
16. Configuration Menu
17. Short Circuit Test key and indicator
18. OCP (Over Current Protection) Test key and indicator
19. OPP (Over Power Protection) Test key and indicator
20. SHORT, OCP & OPP Start/Stop
21. Shuttle Knob, parameter selection, slew and cursor keys

5P SERIES CABINET SYSTEMS

For applications where the 5L Series single chassis provides insufficient current and/or power, the 5P Series of Cabinet Systems provides a fully integrated Master/Slave load test system solution.

These systems come in a movable cabinet with pre-installed AC input wiring and solid copper output bus bars that can handle large amounts of DC current.

Cabinets range in size from 2400 Watt to 14400 Watt, with fourteen system configurations to choose from.

DC Load Model 5P054-99 shown

5P SERIES ALTERNATIVE FORM FACTORS

All 5L Series DC Loads are provided as 19" rack mountable units which can also be used as a bench top unit.

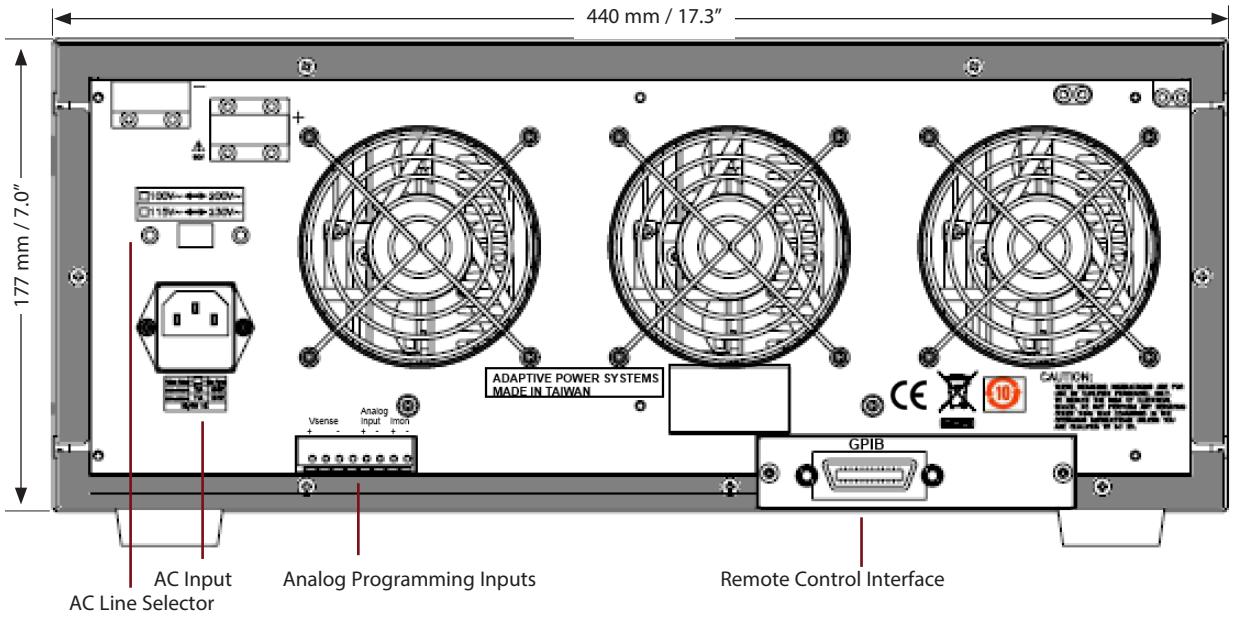
The 5P Series of DC Loads is available in alternative different form factors as follows:

- Rack mountable 19" stack unit consisting of one master unit and one or more auxiliary units underneath. This version is intended for installation into the end-user's cabinet.
- Mobile stack on wheels, Ready for use as shipped.

Rack Mount Version

Mobile Stack on wheels

REAR PANEL


440 mm / 17.3”
177 mm / 7.0”
ADAPTIVE POWER SYSTEMS
MADE IN TAIWAN
GPIB
Vsense
Analog Input
Imon
AC Input
AC Line Selector
Analog Programming Inputs
Remote Control Interface

SPECIFICATIONS - 5L SERIES DC LOADS

MODEL	5L06-12	5L12-12	5L12-24	5L18-12	5L18-24	5L18-36
OPERATING RANGES						
Power Ranges	0-60 W/0-600 W	0-120 W/0-1200 W	0-120 W/0-1200 W	0-180 W/0-1800 W	0-180 W/0-1800 W	0-180 W/0-1800 W
Current Ranges	0-12A / 0-120 A	0-12A / 0-120 A	0-24 A / 0-240 A	0-12 A / 0-120 A	0-24 A / 0-240 A	0-36 A / 0-360 A
Voltage Range	0 - 60 V	0 - 60 V	0 - 60 V	0 - 60 V	0 - 60 V	0 - 60 V
Minimum Voltage	0.6 V @ 120 A	0.6 V @ 120 A	0.7 V @ 240 A	0.4 V @ 120 A	0.7 V @ 240 A	0.7 V @ 360 A
OPERATING MODES						
CC Mode Range	0-12 A / 120 A	0-12 A / 120 A	0-24 A / 240 A	0-12 A / 120 A	0-24 A / 240 A	0-36 A / 360 A
Resolution	0.2 mA / 2 mA	0.2 mA / 2 mA	0.4 mA / 4 mA	0.2 mA / 2 mA	0.4 mA / 4 mA	0.6 mA / 6 mA
Accuracy	± 0.1% OF (SETTING + RANGE)					
CR Mode Range	0.0083 /0.5 / 30kΩ	0.0083 / 0.5 / 30kΩ	0.0041 / 0.25 / 15kΩ	0.0083 / 0.5 / 30kΩ	0.0041 / 0.25 / 15kΩ	0.0027 / 0.167 / 10Ω
Resolution	0.0083mΩ / 0.033mS	0.0083mΩ / 0.033mS	0.0041mΩ / 0.066mS	0.0083mΩ / 0.033mS	0.0041mΩ / 0.066mS	0.0027mΩ / 0.1mS
Accuracy	± 0.2% OF (SETTING + RANGE)					
CV Mode Range	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V
Resolution	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV
Accuracy	± 0.05% OF (SETTING + RANGE)					
CP Mode Range	0-60 W/0 -600 W	0-120 W/0 -1200 W	0-120 W/0 -1200 W	0-180 W/0 -1800 W	0-180 W/0 -1800 W	0-180 W/0 -1800 W
Resolution	1 mW / 10 mW	2 mW / 20 mW	2 mW / 20 mW	3 mW / 30 mW	3 mW / 30 mW	3 mW / 30 mW
Accuracy	± 0.5% OF (SETTING + RANGE)					
PROTECTION						
Over Power (OP)	630 W	1260 W	1260 W	1890 W	1890 W	1890 W
Over Current (OC)	126.0 A	126.0 A	252.0 A	126.0 A	252.0 A	378.0 A
Over Voltage (OV)	63.0 V	63.0 V	63.0 V	63.0 V	63.0 V	63.0 V
Over Temperature (OT)	+85° C / +185° F					
DYNAMIC OPERATION						
T high & T low	0.050 - 9.999 / 99.99 / 999.9 / 9999ms (20 kHz)					
Resolution	0.001 / 0.01 / 0.1 / 1ms					
Accuracy	1µs / 10µs / 100µs / 1ms + 50ppm					
Slew Rate	8mA-500mA/µs		16mA-1A/µs	8mA-500mA/µs	16mA-1A/µs	24mA-1500mA/µs
	80mA-5A/µs		160mA-10A/µs	80mA-5A/µs	160mA-10A/µs	240mA-15A/µs
Accuracy	± 5% OF SETTING ± 10 µs					
Min. Rise Time	24µs Typical					
METERING						
Voltage Range	0 - 6.0 V / 60.0 V					
Resolution	0.1 mV / 1 mV					
Accuracy	± 0.025% OF (READING + RANGE)					
Current Range	0-12 A / 120 A	0-12 A / 120 A	0-24 A / 240 A	0-12 A / 120 A	0-24 A / 240 A	0-36 A / 360 A
Resolution	0.2 mA / 2 mA	0.2 mA / 2 mA	0.4 mA / 4 mA	0.2 mA / 2 mA	0.4 mA / 4 mA	0.6 mA / 6 mA
Accuracy	± 0.1% OF (READING + RANGE)					
Power Range	0 - 600.0 W	0 - 1200.0 W	0 - 1200.0 W	0 - 1800.0 W	0 - 1800.0 W	0 - 1800.0 W
Resolution	0.1 W					
Accuracy	± 0.125% OF (READING + RANGE)					
SHORT CIRCUIT						
Max. Short Current	120 A	120 A	240 A	120 A	240 A	360 A
ANALOG I/O						
Analog Monitor Out	0 - 10 V out F.S. / 1KΩ Zout, Non-isolated					
Analog Input (CC mode)	0 - 10V in for F.S. current @ 10V					
AC INPUT AND PHYSICAL SPECIFICATIONS						
Power & Cooling	115/230Vac ± 10%, 50/60 Hz, Variable Speed Fan Cooled					
Dimensions (H x W x D)	177 x 440 x 445 mm / 7.0" x 17.3" x 17.5"					
Weight (Net)	15.2kg / 33.5lbs	19.4kg / 42.8lbs	19.4kg / 42.8lbs	23.6kg / 52.0lbs	23.6kg / 52.0lbs	23.6kg / 52.0lbs
Operating Range	0 - 40° C / 32 - 104° F					
EMC & Safety	CE Mark					

SPECIFICATIONS - 5P SERIES DC LOADS

MODEL	5P024-24	5P024-48	5P036-24	5P036-48	5P036-72	5P054-36	5P054-72
OPERATING RANGES							
Power Ranges	0-240W/0-2400W	0-240W/0-2400W	0-360W/0-3600W	0-360W/0-3600W	0-360W/0-3600W	0-540W/0-5400W	0-540W/0-5400W
Current Ranges	0 -24A/0-240A	0 -48A/0-480A	0 -24A/0-240A	0 -48A/0-480A	0-72A/0-720A	0-36A/0-360A	0-72A/0-720A
Voltage Range	0 - 60 V	0 - 60 V	0 - 60 V	0 - 60 V	0 - 60 V	0 - 60 V	0 - 60 V
Minimum Voltage	0.7 V @ 240 A	0.7 V @ 480 A	0.7 V @ 240 A	0.7 V @ 480 A	0.7 V @ 720 A	0.7 V @ 360 A	0.7 V @ 720 A
OPERATING MODES							
CC Mode Range	0 - 24 A / 240 A	0 - 48 A / 480 A	0 - 24 A / 240 A	0 - 48 A / 480 A	0 - 72 A / 720 A	0 - 36 A / 360 A	0 - 72 A / 720 A
Resolution	0.4 mA / 4 mA	0.8 mA / 8 mA	0.4 mA / 4 mA	0.8 mA / 8 mA	1.2 mA / 12 mA	0.6 mA / 6 mA	1.2 mA / 12 mA
Accuracy	± 0.1% OF (SETTING + RANGE)						
CR Mode Range	0.0041 / 0.25 / 15kΩ	0.002 / 0.125 / 7.5kΩ	0.0041 / 0.25 / 15kΩ	0.002 / 0.125 / 7.5kΩ	0.00138 / 0.0833 / 5kΩ	0.0027 / 0.167 / 10kΩ	0.00138 / 0.0833 / 5kΩ
Resolution	0.0041mΩ / 0.066mS	0.002mΩ / 0.1333mS	0.0041mΩ / 0.066mS	0.002mΩ / 0.133mS	0.00138mΩ / 0.2mS	0.0028mΩ / 0.1mS	0.0028mΩ / 0.1mS
Accuracy	± 0.2% OF (SETTING + RANGE)						
CV Mode Range	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V
Resolution	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV
Accuracy	± 0.05% OF (SETTING + RANGE)						
CP Mode Range	0-240W/0-2400W	0-240W/0-2400W	0-360W/0-3600W	0-360W/0-3600W	0-360W/0-3600W	0-540W/0-5400W	0-540W/0-5400W
Resolution	3 mW / 30 mW	4 mW / 40 mW	6 mW / 60 mW	6 mW / 60 mW	6 mW / 60 mW	9 mW / 90 mW	9 mW / 90 mW
Accuracy	± 0.5% OF (SETTING + RANGE)						
PROTECTION							
Over Power (OP)	2520 W	2520 W	3780 W	3780 W	3780 W	5670 W	5670 W
Over Current (OC)	252.0 A	504.0 A	252.0 A	504.0 A	756.0 A	378.0 A	756.0 W
Over Voltage (OV)	63.0 V	63.0 V	63.0 V	63.0 V	63.0 V	63.0 V	63.0 V
Over Temperature (OT)	+85° C / +185° F						
DYNAMIC OPERATION							
T high & T low	0.050 - 9.999 / 99.99 / 999.9 / 9999ms (20 kHz)						
Resolution	0.001 / 0.01 / 0.1 / 1ms						
Accuracy	1µs / 10µs / 100µs / 1ms + 50ppm						
Slew Rate	0.016A-1A/µs	0.032A-2A/µs	0.016A-1A/µs	0.016A-1A/µs	0.048A-3A/µs	0.024A-1.5A/µs	0.048A-3A/µs
	0.16A-10A/µs	0.32A-20A/µs	0.16A-10A/µs	0.16A-10A/µs	0.48A-30A/µs	0.24A-15A/µs	0.48A-30A/µs
Accuracy	± 5% OF SETTING ± 10 µs						
Min. Rise Time	24µs Typical						
METERING							
Voltage Range	0 - 6.0 V / 60.0 V						
Resolution	0.1 mV / 1 mV						
Accuracy	± 0.025% OF (READING + RANGE)						
Current Range	0 - 24 A / 240 A	0 - 48 A / 480 A	0 - 24 A / 240 A	0 - 48 A / 480 A	0 - 72 A / 720 A	0 - 36 A / 360 A	0 - 72 A / 720 A
Resolution	0.4 mA / 4 mA	0.8 mA / 8 mA	0.4 mA / 4 mA	0.8 mA / 8 mA	1.2 mA / 12 mA	0.6 mA / 6 mA	1.2 mA / 12 mA
Accuracy	± 0.1% OF (READING + RANGE)						
Power Range	0 - 2400.0 W	0 - 2400.0 W	0 - 2400.0 W	0 - 3600.0 W	0 - 3600.0 W	0 - 5400.0 W	0 - 5400.0 W
Resolution	0.1 W						
Accuracy	± 0.125% OF (READING + RANGE)						
SHORT CIRCUIT							
Max. Short Current	240 A	480 A	240 A	480 A	720 A	360 A	720 A
ANALOG I/O							
Analog Monitor Out	0 - 10 V out F.S. / 1KΩ Zout, Non-isolated						
Analog Input (CC mode)	0 - 10V in for F.S. current @ 10V						
AC INPUT AND PHYSICAL SPECIFICATIONS							
Power & Cooling	115/230Vac ± 10%, 50/60 Hz, Variable Speed Fan Cooled						
Dimensions (H x W x D)	839 x 600 x 600 mm / 33.0" x 23.6" x 23.6"						
Weight (Net)	81.2kg / 179.0 lb	81.2kg / 179.0 lb	81.2kg / 179.0 lbs	81.2kg / 179.0 lbs	81.2kg / 179.0 lbs	104.8kg / 231 lbs	104.8kg / 231 lbs
Operating Range	0 - 40° C / 32 - 104° F						
EMC & Safety	CE Mark						

SPECIFICATIONS - 5P SERIES DC LOADS

MODEL	5P054-99	5P072-48	5P072-96	5P090-60	5P108-72	5P126-84	5P144-96
OPERATING RANGES							
Power Ranges	0-540W/0-5400W	0-720W/0-7200W	0-720W/0-7200W	0-900W/0-9000W	0-1080W/0-10800W	0-1260W/0-12600W	0-1440W/0-14400W
Current Ranges	0-100 A /0-1000 A	0-48 A /0-480 A	0-96 A /0-960 A	0-60 A /0-600 A	0-72 A /0-720 A	0-84 A /0-840 A	0-96 A /0-960 A
Voltage Range	0 - 60 V	0 - 60 V	0 - 60 V	0 - 60 V	0 - 60 V	0 - 60 V	0 - 60 V
Minimum Voltage	0.7 V @ 1000 A	0.7 V @ 480 A	0.7 V @ 960 A	0.7 V @ 600 A	0.7 V @ 720 A	0.7 V @ 840 A	0.7 V @ 960 A
OPERATING MODES							
CC Mode Range	0-100 A /0-1000 A	0-48 A / 0-480 A	0-96 A / 0-960 A	0-60 A / 0-600 A	0-72 A / 0-720 A	0-84 A / 0-840 A	0-96 A / 0-960 A
Resolution	1.6 mA / 16 mA	0.8 mA / 8 mA	1.6 mA / 16 mA	1m A / 10 mA	1.2 mA /12 mA	1.4 mA / 14 mA	1.6 mA / 16 mA
Accuracy	± 0.1% OF (SETTING + RANGE)						
CR Mode Range	0.001 / 0.06 / 3.6kΩ	0.002 / 0.125 / 7.5kΩ	0.001 / 0.0625 / 3750Ω	0.0017 / 0.1 / 6kΩ	0.00138 / 0.083 / 5kΩ	0.0012 / 0.0714/ 4284Ω	0.001 / 0.0625 / 3750Ω
Resolution	0.001mΩ / 0.277mS	0.002mΩ / 0.13mS	0.001mΩ / 0.267mS	0.0016mΩ / 0.016mS	0.0014mΩ / 0.2mS	0.0003mΩ / 0.23mS	0.001mΩ / 0.267mS
Accuracy	± 0.2% OF (SETTING + RANGE)						
CV Mode Range	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V	0-6.0 V / 0-60.0 V
Resolution	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV	0.1 mV / 1 mV
Accuracy	± 0.05% OF (SETTING + RANGE)						
CP Mode Range	0-540W/0-5400W	0-720W/0-7200W	0-720W/0-7200W	0-900W/0-9000W	0-1080W/0-10800W	0-1260W/0-12600W	0-1440W/0-14400W
Resolution	9 mW / 90 mW	12 mW / 120 mW	12 mW / 120 mW	15 mW / 150 mW	18 mW / 180 mW	21 mW / 210 mW	24 mW /240 mW
Accuracy	± 0.5% OF (SETTING + RANGE)						
PROTECTION							
Over Power (OP)	5670 W	7560 W	7560 W	9450 W	11340 W	13320 w	15120 W
Over Current (OC)	1050 A	504.0 A	1008 A	630.0 A	756.0 A	882.0 A	1008 A
Over Voltage (OV)	63.0 V	63.0 V	63.0 V	63.0 V	63.0 V	63.0 V	63.0 V
Over Temperature (OT)	+85° C / +185° F						
DYNAMIC OPERATION							
T high & T low	0.050 - 9.999 / 99.99 / 999.9 / 9999ms (20 kHz)						
Resolution	0.001 / 0.01 / 0.1 / 1ms						
Accuracy	1µs / 10µs / 100µs / 1ms + 50ppm						
Slew Rate	0.0664A-4.15A/µs	0.032A-2A/µs	0.064A-4A/µs	0.04A-2.5A/µs	0.048A-3A/µs	0.056A-3.5A/µs	0.064A-4A/µs
	0.644A-41.5A/µs	0.32A-20A/µs	0.64A-40A/µs	0.4A-25A/µs	0.48A-30A/µs	0.56A-35A/µs	0.64A-40A/µs
Accuracy	± 5% OF SETTING ± 10 µs						
Min. Rise Time	24µs Typical						
METERING							
Voltage Range	0 - 6.0 V / 60.0 V						
Resolution	0.1 mV / 1 mV						
Accuracy	± 0.025% OF (READING + RANGE)						
Current Range	0-100 A /0-1000 A	0-48 A / 0-480 A	0-96 A / 0-960 A	0-60 A / 0-600 A	0-72 A / 0-720 A	0-84 A / 0-840 A	0-96 A / 0-960 A
Resolution	1.6 mA / 16 mA	0.8 mA / 8 mA	1.6 mA / 16 mA	1m A / 10 mA	1.2 mA /12 mA	1.4 mA / 14 mA	1.6 mA / 16 mA
Accuracy	± 0.1% OF (READING + RANGE)						
Power Range	0 - 5400.0 W	0 - 7200.0 W	0 - 7200.0 W	0 - 9000.0 W	0 - 10800.0 W	0 - 12600.0 W	0 - 14400.0 W
Resolution	0.1 W						
Accuracy	± 0.125% OF (READING + RANGE)						
SHORT CIRCUIT							
Max. Short Current	1000 A	480 A	960 A	600 A	720 A	840 A	960 A
ANALOG I/O							
Analog Monitor Out	0 - 10 V out F.S. / 1KΩ Zout, Non-isolated						
Analog Input (CC mode)	0 - 10V in for F.S. current @ 10V						
AC INPUT AND PHYSICAL SPECIFICATIONS							
Power & Cooling	115/230Vac ± 10%, 50/60 Hz, Variable Speed Fan Cooled						
Dimensions (H x W x D)	839x600x600mm 33" x 23.6" x 23.6"	1601 x 600 x 600 mm 41.8" x 23.6" x 23.6"		1283 x 600 x 600 mm 50.5" x 23.6" x 23.6"		1506 x 600 x 600 mm 59.3" x 23.6" x 23.6"	1728 x 600 x 600 mm 68" x 23.6" x 23.6"
Weight (Net)	104.8kg/231.0 lbs	161.4kg/355.8lbs	161.4kg/355.8 lbs	185.0kg/407.9 lbs	208.6kg/459.9 lbs	232.2kg/511.9 lbs	268.8kg / 592.6 lbs
Operating Range	0 - 40° C / 32 - 104° F						
EMC & Safety	CE Mark						

ORDERING INFORMATION:

Line 1: Specify DC Load Model:
5Lxx-xx Chassis
or
5Pxxx-xx (Specify form factor on order per page 5)

Line 2: Specify Remote Control Option:
None, Opt GPIB, Opt RS232. Opt USB or Opt LAN

Line 3: Specify Load Cable Option. (See Table)

Available Load Cable Options:

Option P/N	Description	MOQ
OPT-C1KA1	Load Cable, 1000A rated, 1 meter	2
OPT-C1KA2	Load Cable, 1000A rated, 2 meter	2
OPT-C1KA3	Load Cable, 1000A rated, 3 meter	2
OPT-C1KA4	Load Cable, 1000A rated, 4 meter	2
OPT-C1KA5	Load Cable, 1000A rated, 5 meter	2

AC Input Voltage

Please specify AC Line input voltage at the ship-to location on the order as either 120Vac or 230Vac.

Included in Mainframe Ship kit:

- User Manuals in PDF Format on CD ROM.
- AC Line Cord.
- Rack Handles (detached).
- Analog Input BNC Cable (1 meter/39.4").
- Voltage Sense alligator clip lead, Red (1 meter, 39.4")
- Voltage Sense alligator clip lead, Black (1 meter, 39.4")
- LAN/USB Driver CD ROM (with Opt USB or Opt LAN).
- Certificate of Conformance.

Service and Support

Adaptive Power Systems' customer support is second to none. Our Customer Support Program provides the training, repair, calibration, and technical support services that our customers value. So, in addition to receiving the right test equipment, our customers can also count on excellent support before, during and after the sale. With company owned support and service centers around the world, support is never far away.
Complete calibration and repair services are offered at our US, European and Chinese manufacturing facilities (see contact info below). Calibrations are to original factory specifications and are traceable to NIST (National Institute of Standards and Technology).

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