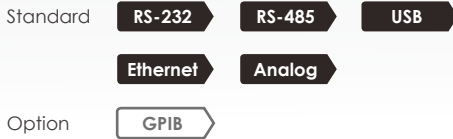


ADG-L series

Programmable DC Power Supply

Interfaces



QR Code



Product Info.



Product Video

NEW



Output Power

5kW/10kW/15kW

RoHS Compliant

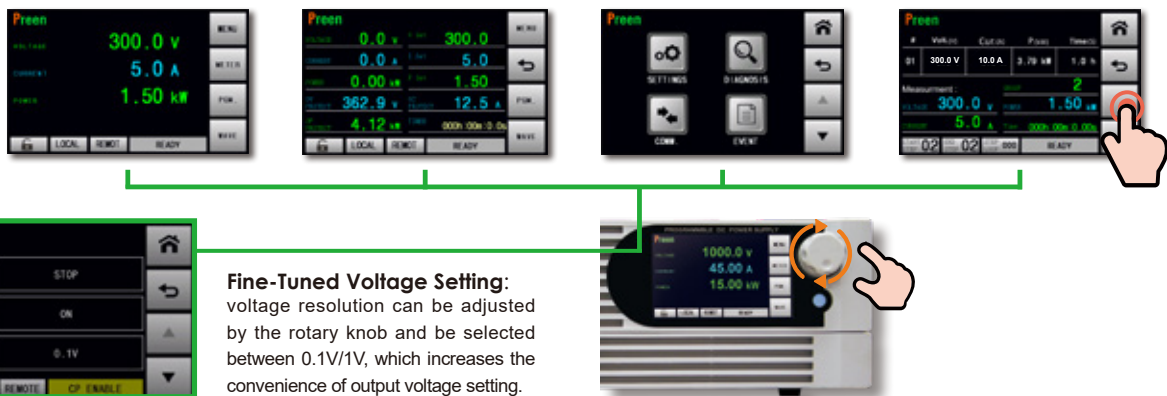


Preen's new ADG-L series is a programmable DC power supply with high power density, low noise, and tight regulation. The combination of DSP and PWM technologies has enabled significant advances in stability and measurements. The ADG-L series includes 31 models with 5kW, 10kW and 15kW maximum output powers 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.

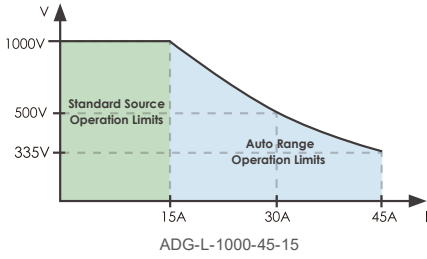
Parallel configuration is available for higher output level. The ADG-L series is operated via the 5" intuitive touch screen or the rotary knob to quickly access measurements, setting parameters, and configurations. The unit can also be controlled via standard RS-232, RS-485, Analog, Ethernet, USB and 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.



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.



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

1

up to

2550A

2

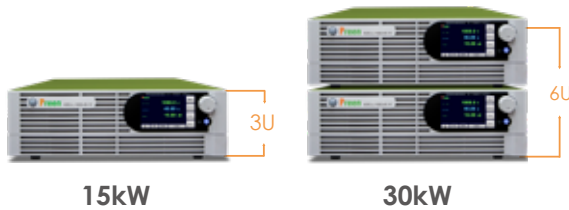
Range from

0~30V up to

0~2000V

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

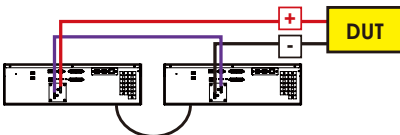


Employing PWM technology and DSP-based control, Preen's ADG-L series DC power supply has 15kW available only in 3U chassis, and with parallel configuration, 30kW only has 6U height.

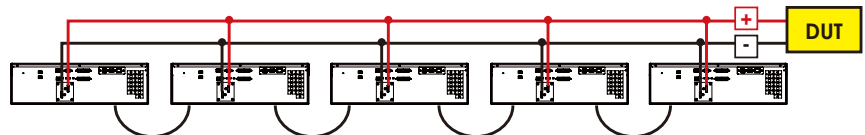
The rack-mount enclosure is designed to accommodate a wide range of applications, especially for automatic test systems and integrations.

Multiple Connections

■ Series connection (Max. 2 units)



■ Parallel connection (Max. 5 units)

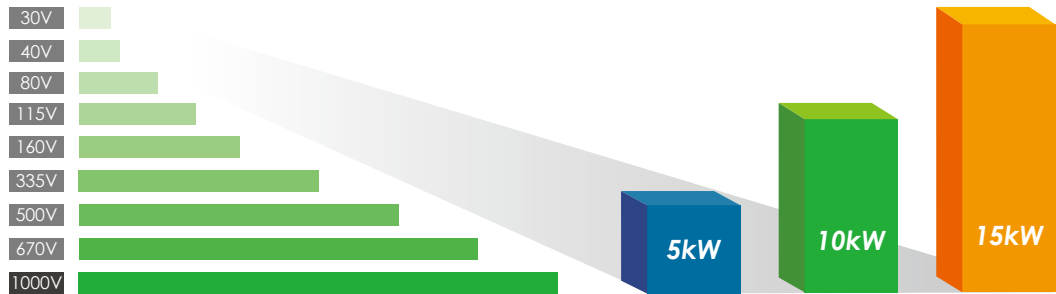


The single unit power of ADG-L series can reach up to 15kW, and can be expanded to 75kW through parallel connection, or can output up to 2000V through series connection. Each unit can be set as Master or Slave. The user can freely combine ADG-L series according to the load test requirements, thereby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

*1 via series connection *2 via parallel connection

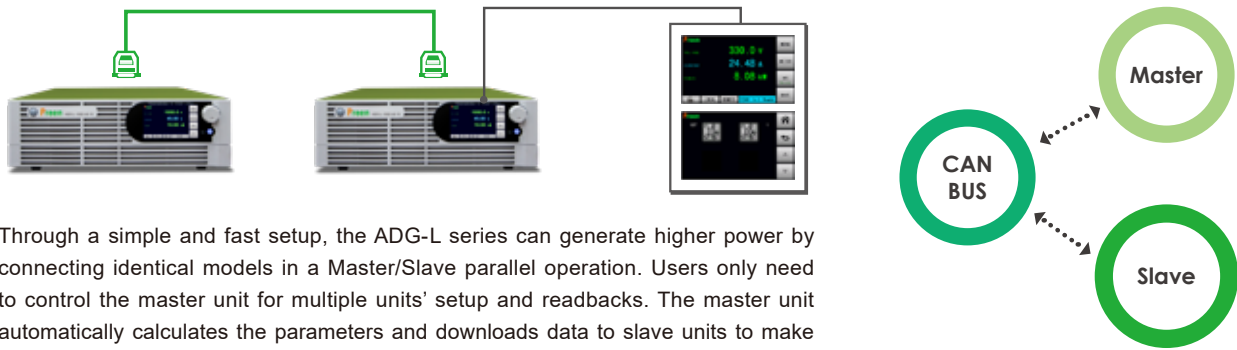
Wide Voltage and Current Range

31 Models



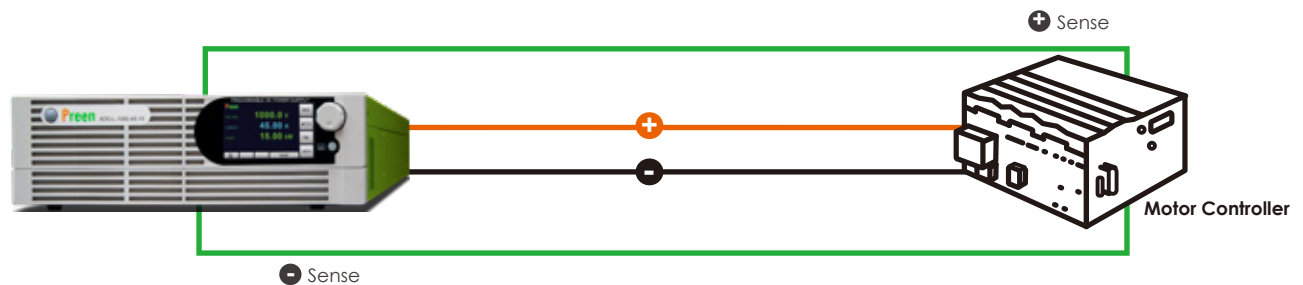
Preen's ADG-L series has 19 different models with three output power levels, 5kW, 10kW and 15kW. With up to 1000V output voltage and multiple Auto Range models, the ADG-L series covers a wide range of applications including electric vehicle, photovoltaic, battery, DC/DC converters and electronic products.

Master/Slave Parallel Operation



Remote Sensing

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.



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



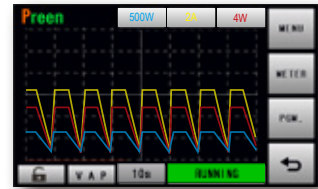
In order to prevent the operator from changing the set parameters by mistake, the new Screen Lock Password function is added on ADG-L series, so that the operator can only perform the output of the device, and only authorized personnel has the password to unlock the screen and edit parameters.

Programming Sequences and Simulations

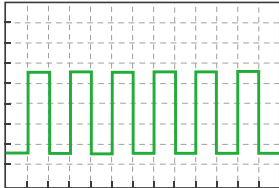


#	Volt (V)	Cur. (A)	Time	T-scale	METER
01	330.0 V	10.00 A	2.00 s	SECON	METER
02	330.0 V	10.00 A	5.00 s	SECON	METER
03	10.0 V	10.00 A	2.00 s	SECON	METER

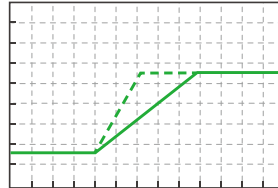
Program Setting Page



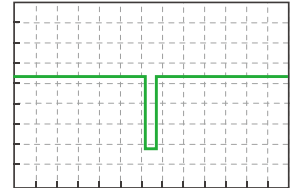
Wave Page



DC Pulse



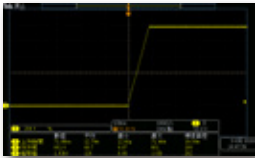
Slew Rate Control



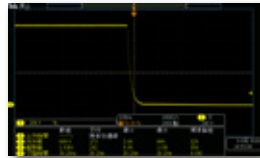
Voltage Sag

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.

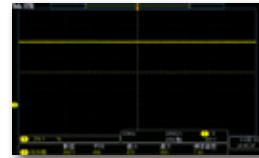
Industry-leading Performance



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.

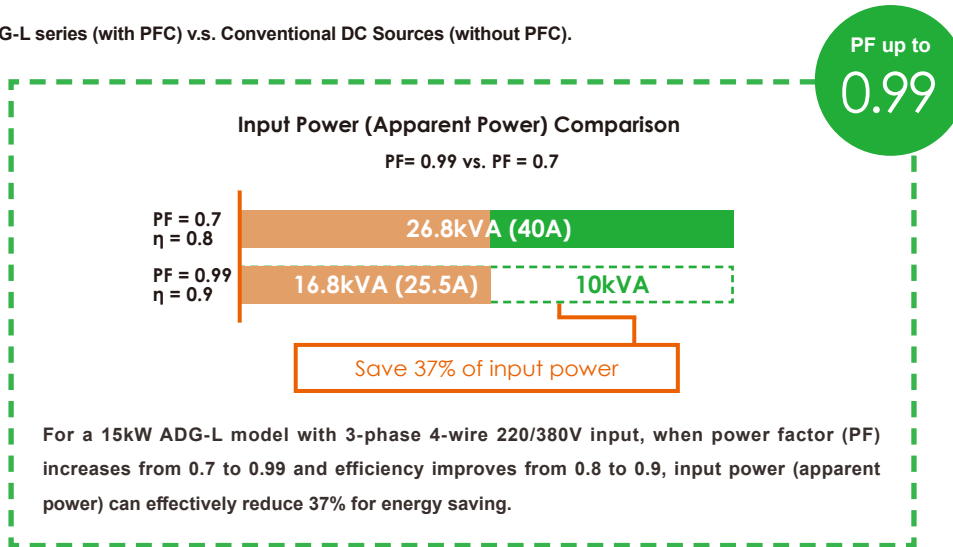
Reverse Current Protection Module (opt.)

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.

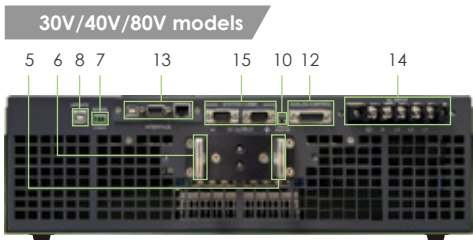
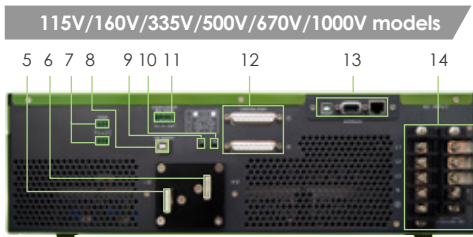
0.99 Input Power Factor

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

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
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)

*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) ¹¹	≤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 ¹¹ (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 ¹²	≤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 ¹³	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 ¹⁴	≤ 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 ¹⁵	≥ 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°C ~ 40°C								
Storage Temperature	-20°C ~ 70°C								
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 ¹⁶	approx. 20.7kg / 45.7 lbs				approx. 19.1kg / 42.1 lbs				

¹¹ When output current is ≥ 2% of rated current. ¹² The load variation is 0-100% at rated input voltage. ¹³ The time required for the output voltage to change from 10% to 90% or 90% to 10% at full scale.

¹⁴ Under nominal AC input, recovers to ±1% of full-scale output voltage for a 50% to 100% or 100% to 50% load change. ¹⁵ When voltage output is at the max. voltage

¹⁶ 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 Regulation²	≤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 Rate³	Rise Time	≤ 8ms	≤ 8ms	≤ 15ms	≤ 15ms	≤ 25ms	≤ 25ms	≤ 30ms	≤ 30ms	≤ 55ms	≤ 60ms
	Fall Time (Full Load)	≤ 3ms	≤ 3ms	≤ 8ms	≤ 8ms	≤ 30ms	≤ 30ms	≤ 45ms	≤ 45ms	≤ 45ms	≤ 45ms
	Fall Time (No Load)	≤ 3s									
Transient Response⁴	≤ 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											
Efficiency⁵	≥ 87% at max. power	≥ 88% at max. power	≥ 90% at max. power	≥ 90% at max. power	≥ 87% at max. power	≥ 90% 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					
Weight⁶	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

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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
	Fall Time (Full Load)	≤ 3ms	≤ 3ms	≤ 8ms	≤ 8ms	≤ 30ms	≤ 45ms	≤ 45ms	≤ 45ms	≤ 45ms	≤ 45ms	≤ 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

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