ADG series

ADG-P & ADG-L

Programmable DC Power Supply

Preen®

- Low Ripple& Tight Regulation
- Output Current up to 2500A
- High Output Power 4-100kW
- 5 & 7-inch Intuitive Touch Screen HMI.
- Multiple Simulation Functions.
- 16 Different Output Voltages & 52 Models.
- Compact & High Power Density.
- Efficiency up to >90%.
- Fast Transient Response

AC POWER CORP.

AC + DC Power Solutions

r Renewable
nd Smart

All models of the ADG series family are equipped with touch screen for easy operation and monitoring.

Utilizing digital signal processing (DSP) technology, the ADG family has better performance and precision.

2 High Voltage Models

Multiple high voltage models with output up to 1600V for EV and renewable energy applications.

3 Modular Design

The modular design of the power unit greatly enhances the ADG family's performance stability.

4 Auto-Range Models for a Wide Range Operation

Auto-range models of the ADG-L series can provide a higher current at a lower voltage, providing a wide range output with a smaller footprint and a better cost performance.

6 Easy Remote Control

Multiple remote interfaces are available for system integrations and remote control.

7 Simulations via Built-in Sequences

Power normal or abnormal conditions can be simulated via control software or touch screen HMI.

8 RoHS Compliant

The ADG family is designed and manufactured under RohS compliance for environmental sustainability.

P series and the new release
nit. These compact DC power
0V and maximum current up to
n programmable functions. The
d programming. With features
ver solution for functional tests

Product series		ADG-L	ADG-P
Output Power		4-12kW	30-100kW
Output Voltage		0-160V to 0-1000V	0-40V to 0-1600V
Mode		CV/CC/CP	CV/CC
Power Factor		≧0.99	≧0.9
Step & Ramp		○	○
Auto-Range Model		△	-
HMI		Touch screen	Touch screen
Parallel Operation		○	△
Event Log		○	○
OVP / OCP Setting		○	○
Remote Sense		○	△
Control Software		○	○
Remote Interface	RS-232	○	△
	RS-485	○	○
	USB	△	-
	Ethernet	△	-

ADG-L series NEW

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

Programmable DC Power Supply

4kW/8kW/12kW

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 fourteen models with 4kW, 8kW and 12kW 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. With a full 12kW in a 3U package it is designed for simulations in product development and automatic test system & integration.
Parallel configuration is available to achieve higher output level.

The ADG-L series is operated from the 5"intuitive touch screen or the rotary knob to quickly access measurements, setting parameters, and configurations. The DC power supply can also be controlled via RS-232, RS-485 and Analog standard remote interfaces or through optional Ethernet, USB, or GPIB interfaces. The built-in simulation function allows devices to be tested to voltage dropouts, spikes and other repetitive testing for voltage and current. This makes the ADG-L series ideal for various applications in renewable energy, EV, aerospace, DC/DC converter and electronic product markets.

Current up to 150A*
*via parallel configuration

Voltage up to 1000V

Multiple Ways of Input Wiring
single or three phase input available
1Φ & 3Φ*
*for 8kW & 12kW models only

Step & Ramp Simulations
time range
10 ms ~ 99999.9 hr

Output Modes
CV/CC/CP

Built-in Sequences
up to 495 STEPs

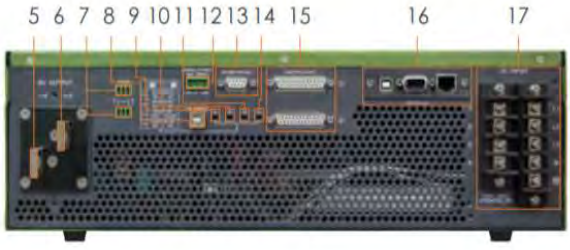
High Power Density
12kW in 3U*
*13.2cm/5.2inches

ADG-L PANEL DESCRIPTION

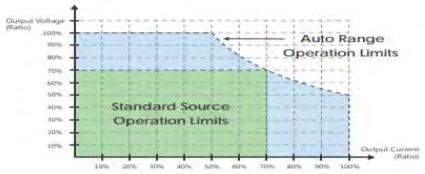
1. Power Switch
2. Touch Screen
3. Rotary Knob
4. Output / Reset Button
5. DC negative output termi-nal
6. DC positive output terminal
7. Remote Sense Connector
8. USB interface (for firmware update)
9. CANBUS terminal resister switch
10. Serial and parallel switch
11. RS-485 terminal resister switch
12. Accessory power outlet
13. RS232/RS485 Interface (standard)
14. RS232/RS485 Interface switch
15. Analog interface
16. Optional communication interface : USB/Ethernet/GPIB
17. Input terminals

Front Panel Overview

Rear Panel Overview



Auto Range Models



Comparing to conventional DC power supplies that provide the same rated current at all output voltage, the ADG-L's auto range models offer a wide operation region. It 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.

Intuitive Touch Screen and Rotary Knob

Touch Screen

The ADG-L series employs 5"touch screen and rotary knob to provide intuitive and easy-to-use control and display. 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 but also easily from the touch screen.

High Power Density: 12kW in 3U

Employing PWM technology and DSP-based control, Preen's ADG-L series DC power supply has 12kW available only in 3U package, and with parallel configuration, 24kW only has 6U height. The rack-mount enclosure is designed to accommodate a wide range of applications, especially for automatic test systems and integrations.

Free Control Software and Various Communication Interfaces

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

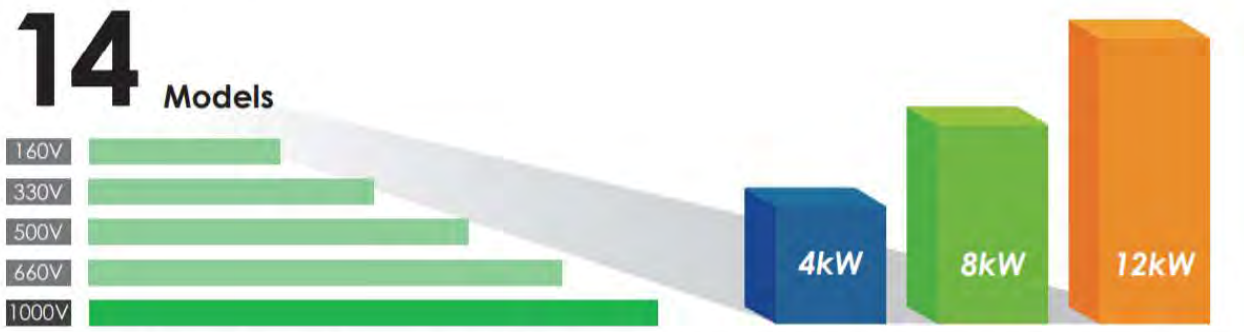
RS-485 RS-232 Analog Standard

Ethernet GPIB USB Optional

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

Wide Voltage and Current Range

Preen's ADG-L series has 14 different models with three output power levels, 4kW, 8kW and 12kW. 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.



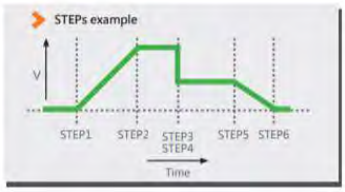
160V 4kW ADG-L-160-25	160V 8kW ADG-L-160-50	160V 12kW ADG-L-160-75	330V 4kW ADG-L-330-12	330V 4kW ADG-L-330-25-4	660V 8kW ADG-L-660-12	660V 8kW ADG-L-660-25-8
330V 8kW ADG-L-330-24	330V 8kW ADG-L-330-50-8	330V 12kW ADG-L-330-36	330V 12kW ADG-L-330-75-12	500V 12kW ADG-L-500-24	1000V 12kW ADG-L-1000-12	1000V 12kW ADG-L-1000-25-12

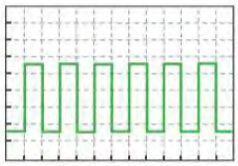
Programming Sequences and Simulations

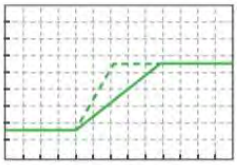
The built-in programming function of the ADG-L series has 99 STEPs for each of the 5 GROUPs. Users can set each STEP's output voltage, output current and time to generate consecutive voltage/current changes or set different rise/fall time. This built-in function and the ADG-L's control software allow users to create complex DC waveform with sophisticated coding. Making programming the DC power supply an easy task.

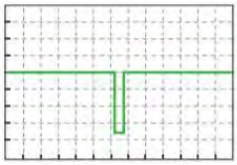

Program Setting Page


Wave Page



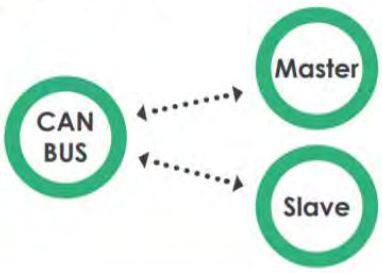

DC Pulse


Slew Rate Control


Voltage Sag

Master/Slave Parallel Operation

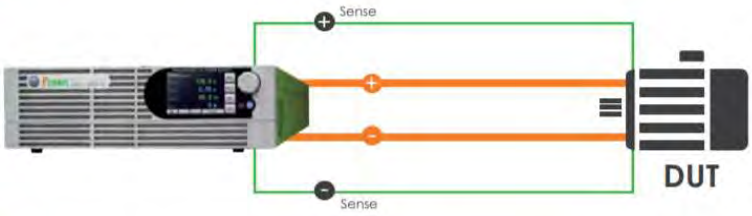
Through a simple and fast setup, the ADG-L series can generate higher power by connecting identical models in a master/slave parallel operation. Users only need to control the master unit for multiple units' setup and readbacks. The master unit automatically calculates the parameters and downloads data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



Wide Range of Applications

- Hybrid-Electric / Electric Vehicle (HEV/EV) and related components
- DC/DC & DC/AC converters
- Rail transport components
- Electroplating and water treatment
- Circuit breakers, contactors and fuses
- Renewable Energy

Remote Sensing



In many laboratories or factories, the DC power supply is located a certain distance away from the DUT, and this sometimes causes voltage drop due to the resistance of the wires. The ADG-L is equipped with remote sensing to compensate voltage drops and provide a stable output voltage, and it allows users to have the desired voltage appear at DUT.

Device Protection

The ADG-L series has multiple levels of protection to safeguard you device. These include over-voltage, over-current, over-power, over-temperature, and input under/over-voltage to shut down the power supply output to prevent fault conditions and further damages.

Error Log for Easy Analysis

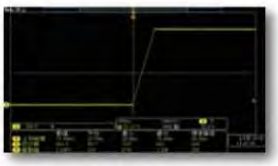
The EVENT function of the ADG-L series provides an error log to record critical errors up to 999 items. The log includes date, time and error types to help users better analyze fault conditions.

Multiple Ways of AC Input Connection

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' 8kW and 12kW models offer more than two ways of input connections. For example, the 8kW 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.

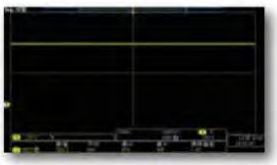
Industry-leading Performance

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 DC sources are ideal to test DUT behavior to voltage sags, dropouts, ON/OFF tests and complex DC waveforms.



Fast Rise Time

Fast Fall Time



Low Voltage Ripple

Fast Transient Response

0.99 Input Power Factor

PF up to 0.99

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

01 Effectively increase real power (P) and reduce reactive power (Q) for better energy saving and operation cost.

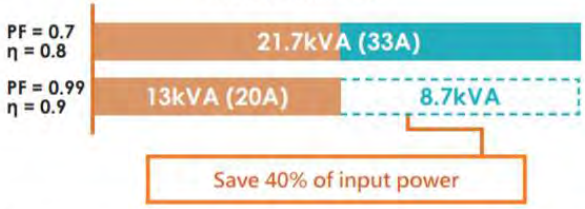
02 Able to suppress peak current and power loss to have lower harmonic distortions.

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 (no PFC)
refer to the chart on the right

Input Power (Apparent Power) Comparison
PF= 0.99 vs. PF = 0.7



For a 12kW ADG-L model with 3-phase 4-wire 220/380V input, when power factor (PF) increases from 0.7 to 0.99 and efficiency improves from 0.8 to 0.9, input power (apparent power) can effectively reduce 40% for energy saving.

ADG-P series

Standard: RS-485 | Optional: RS-232, GPIB, Analog

High Power Programmable DC Power Supply

30kW~100kW

Preen's ADG series is a programmable DC power supply with high power density and high output power, offering great response time, high accuracy and many output voltage and current combinations. Designed for the increasing demand of high power DC, ADG is ideal for testing EV's motor/compressor, server power supply, fuse/ circuit breaker/contactor, and PV inverter or can be used as a facility power or EMC chamber power.

With output power up to 100kW per unit, the ADG series offers output voltage up to 1600V and output current up to 2500A.

Users can select standard RS-485 interface or optional RS- 232 and GPIB. The STEP and GRADUAL modes allow easy setup on test sequence and depending on CV/CC settings and load conditions, ADG series can operate as a current or voltage source. Its remote sensing feature can effectively reduce voltage drop caused by cable length and provides more flexibility on installation.

NEW DSP Technology Design

Great Advances in Performance

High Power	lowest to	Fast Transient Response
30-100kW	<0.1%-0.2% Low Ripple	< 4ms

High Effciency	High Voltage	High Current	For Wide Applications
up to >90%	15 voltage ranges, up to 2000V	up to 2000A	43 models

Applications

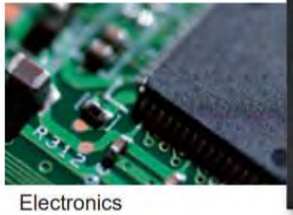

Renewable Energy


Aircraft Manufacturing


EMC Chamber


Laboratory

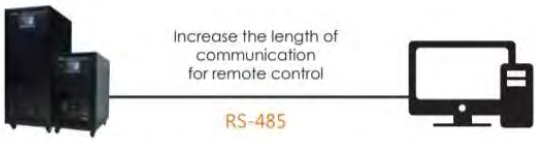

Control Room/ Data Center


Electronics

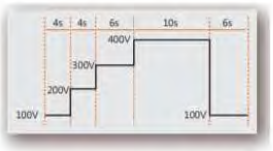
A DC power supply with

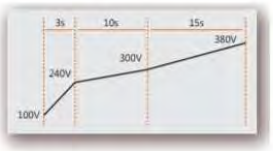
"High Output Voltage, High Output Current, Wide Range of Output Power, and Programmable Functions."

Easy Remote Control Set Up & Technically Advanced Performance



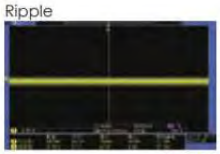
ADG-P series comes with RS-485 interfaces and optional RS-232 and GPIB interfaces, allow user to easily programming the unit through different interfaces or Preen's control software.





The built-in STEP and GRADUAL modes allow users to set up sequences of start / end voltage, run time and current for different testing simulations. Or users can contact us to customize different built-in voltage and current simulations for easy testing set up.

Technically Advanced Performance



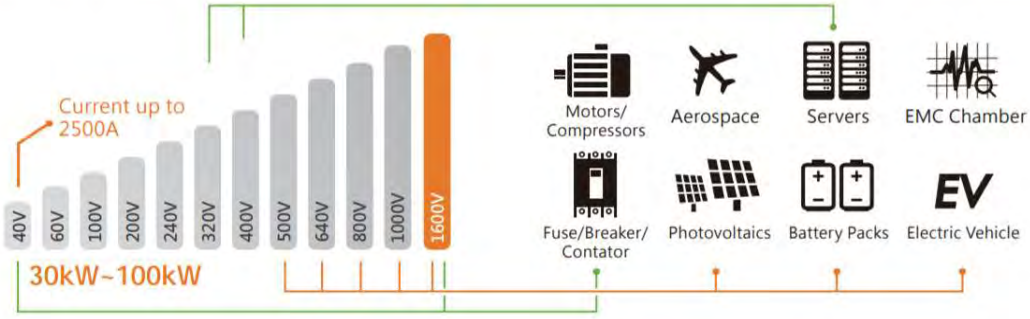
Measurement
< 4-12 ms

ADG series has the industry leading performance on ripple, response time, and voltage regulation, which make it an ideal DC power supply for all kinds of testing.

User-friendly HMI

ADG series has an intuitive touch screen HMI for easy operation and data display. Users also can easily set up voltage or current variation simulations through the built-in programmable functions in the touch screen.

A Varity of Applications



ADG series has many output voltage ranges suitable for different market applications. Models over 640V 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 2000A or 1600V 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.

ADG-L SPECIFICATIONS

Model		ADG-L-160-25	ADG-L-330-12	ADG-L-330-25-4	ADG-L-160-50	ADG-L-330-24	ADG-L-330-50-8	ADG-L-660-12
Output Power		4kW	4kW	4kW	8kW	8kW	8kW	8kW
INPUT								
Input Voltage		1Φ 2W+G 187-264 Vac			1Φ 2W+G 187-264 Vac 3Φ4W+G 340-460 Vac			
Input Current		24A			1Φ : 48A 3Φ : 24A			
Input Frequency		47 Hz - 63 Hz						
Power Factor		≧0.99 at max. power						
OUTPUT								
Voltage		0~160V	0~330V	0~330V	0~160V	0~330V	0~330V	0~660V
Current		0~25A	0~12A	0~25A	0~50A	0~24A	0~50A	0~12A
Voltage Ripple (rms)		≦0.15% F.S.	≦0.08% F.S.	≦0.08% F.S.	≦0.15% F.S.	≦0.08% F.S.	≦0.08% F.S.	≦0.08% F.S.
Voltage Ripple (peak to peak)		≦1.6% F.S.	≦0.8% F.S.	≦0.8% F.S.	≦2.5% F.S.	≦1.6% F.S.	≦1.6% F.S.	≦0.8% F.S.
Voltage Line Regulation		≦0.03% F.S.						
Voltage Load Regulation[*1]		≦0.08% F.S.	≦0.05% F.S.	≦0.05% F.S.	≦0.08% F.S. + 80mV	≦0.08% F.S. + 80mV	≦0.08% F.S. + 80mV	≦0.05% F.S.
Current Ripple (rms)		≦0.15% F.S.	≦0.25% F.S.	≦0.15% F.S.	≦0.15% F.S.	≦0.25% F.S.	≦0.15% F.S.	≦0.5% F.S.
Current Line Regulation		≦0.05% F.S.						
Current Load Regulation		≦0.10% F.S.	≦0.10% F.S.	≦0.10% F.S.	≦0.2% F.S.	≦0.2% F.S.	≦0.2% F.S.	≦0.25% F.S.
Transient Response[*2]		≦3ms	≦3ms	≦3ms	≦3ms	≦3ms	≦3ms	≦3.5ms
Efficiency		≧90% at max. power						
Slew Rate[*3]	Rise Time	≦25ms	≦35ms	≦35ms	≦25ms	≦40ms	≦40ms	≦60ms
	Fall Time (Full Load)	≦30ms	≦40ms	≦40ms	≦35ms	≦45ms	≦45ms	≦45ms
	Fall Time (No Load)	≦10s						
Programming & Measurement								
Voltage Programming Accuracy		≦0.15%F.S.+100mV						
Voltage Measurement Accuracy		≦0.15%F.S.+100mV			≦0.15%F.S.+100mV			≦0.15%F.S. +100mV
Voltage Resolution		100mV						
Current Programming Accuracy		≦0.4%F.S.+60mA						
Current Measurement Accuracy		≦0.3%F.S.+60mA			≦0.3%F.S.+60mA			≦0.4%F.S. +60mA
Current Resolution		10mA						
General Specs.								
Interfaces		Standard: RS-485/RS-232 (Modbus) & Analog Optional: Ethernet/USB/RS-485/RS-232 (SCPI) or GPIB						
Remote sense compensation		≦5V						
Operating Temperature		0° C ~ 40° C						
Storage Temperature		-20° C ~ 70° C						
Protections		OVP、OCP、OPP、OTP、Vin OV、Vin UV、LDC OV Vin LV、Phase Fail、Fan Fail						
OVP Range		0~110% F.S.						
OCP Range		0~110% F.S.						
Dimension (HxWxD)		132 x 442 x 756 mm / 5.20 x 17.40 x 29.76 inches						
Weight		4kW: approx. 26kg / 57.32lbs 8kW: approx. 33kg / 72.75lbs						

ADG-L SPECIFICATIONS

Model		ADG-L-660-25-8	ADG-L-160-75	ADG-L-330-36	ADG-L-330-75-12	ADG-L-500-24	ADG-L-1000-12	ADG-L-1000-25-12
Output Power		8kW	12kW	12kW	12kW	12kW	12kW	12kW
INPUT								
Input Voltage		1Φ 2W+G 187-264 Vac 3Φ4W+G 340-460 Vac	1Φ 2W+G 187-264 Vac 3Φ3W+G 187-264 Vac 3Φ4W+G 340-460 Vac					
Input Current		1Φ : 48A 3Φ : 24A	1Φ : 72A 3Φ △ : 42A 3ΦY : 23A					
Input Frequency		47 Hz - 63 Hz						
Power Factor		≧ 0.99 at max. power						
OUTPUT								
Voltage		0~660V	0~160V	0~330V	0~330V	0~500V	0~1000V	0~1000V
Current		0~25A	0~75A	0~36A	0~75A	0~24A	0~12A	0~25A
Voltage Ripple (rms)		≦ 0.08% F.S.	≦ 0.15% F.S.	≦ 0.08% F.S.	≦ 0.08% F.S.	≦ 0.1% F.S.	≦ 0.06% F.S.	≦ 0.06% F.S.
Voltage Ripple (peak to peak)		≦ 0.8% F.S.	≦ 1.6% F.S.	≦ 1% F.S.	≦ 1% F.S.	≦ 0.8% F.S.	≦ 0.5% F.S.	≦ 0.5% F.S.
Voltage Line Regulation		≦ 0.03% F.S.						
Voltage Load Regulation*1		≦ 0.05% F.S.	≦ 0.25% F.S.	≦ 0.25% F.S.	≦ 0.25% F.S.	≦ 0.05% F.S.	≦ 0.05% F.S.	≦ 0.05% F.S.
Current Ripple (rms)		≦ 0.25% F.S.	≦ 0.1% F.S.	≦ 0.15% F.S.	≦ 0.1% F.S.	≦ 0.25% F.S.	≦ 0.5% F.S.	≦ 0.25% F.S.
Current Line Regulation		≦ 0.05% F.S.						
Current Load Regulation		≦ 0.25% F.S.	≦ 0.1% F.S.	≦ 0.1% F.S.	≦ 0.1% F.S.	≦ 0.15% F.S.	≦ 0.15% F.S.	≦ 0.15% F.S.
Transient Response *2		≦ 3.5ms	≦ 4ms	≦ 4ms	≦ 4ms	≦ 3ms	≦ 3ms	≦ 3ms
Efficiency		≧ 90% at max. power						
Slew Rate*3	Rise Time	≦ 60ms	≦ 25ms	≦ 35ms	≦ 35ms	≦ 45ms	≦ 90ms	≦ 90ms
	Fall Time (Full Load)	≦ 45ms	≦ 35ms	≦ 45ms	≦ 45ms	≦ 30ms	≦ 40ms	≦ 40ms
	Fall Time (No Load)	≦ 10s						
Programming & Measurement								
Voltage Programming Accuracy		≦ 0.15%F.S.+100mV						
Voltage Measurement Accuracy		≦ 0.15%F.S.+100mV	≦ 0.15%F.S.+100mV			≦ 0.15%F.S.+150mV		
Voltage Resolution		100mV						
Current Programming Accuracy		≦ 0.4%F.S.+60mA						
Current Measurement Accuracy		≦ 0.4%F.S.+60mA	≦ 0.4%F.S.+60mA			≦ 1%F.S.+150mA		
Current Resolution		10mA						
General Specs.								
Interfaces		Standard: RS-485/RS-232 (Modbus) & Analog Optional: Ethernet/USB/RS-485/RS-232 (SCPI) or GPIB						
Remote sense compensation		≦ 5V						
Operating Temperature		0° C ~ 40° C						
Storage Temperature		-20° C ~ 70° C						
Protections		OVP、OCP、OPP、OTP、Vin OV、Vin UV、LDC OV Vin LV、Phase Fail、Fan Fail						

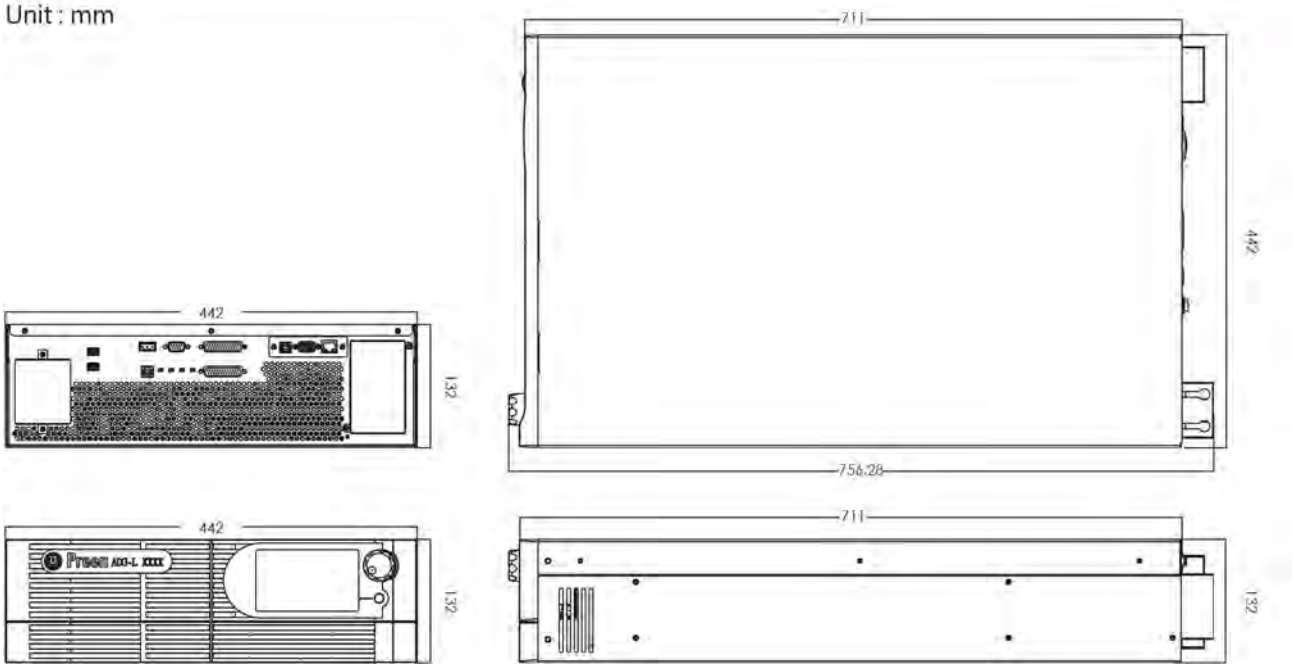
OVP Range	0~110% F.S.
OCP Range	0~110% F.S.
Dimension (HxWxD)	132 x 442 x 756 mm / 5.20 x 17.40 x 29.76 inches
Weight	8kW: approx. 33kg / 72.75lbs 12kW: approx. 40kg / 88.18lbs

ADG-L Ordering Information

ADG-L-160-25	Programmable DC Power Supply
ADG-L-160-50	Programmable DC Power Supply
ADG-L-160-75	Programmable DC Power Supply
ADG-L-330-12	Programmable DC Power Supply
ADG-L-330-24	Programmable DC Power Supply
ADG-L-330-36	Programmable DC Power Supply
ADG-L-500-24	Programmable DC Power Supply
ADG-L-660-12	Programmable DC Power Supply
ADG-L-1000-12	Programmable DC Power Supply
ADG-L-330-25-4	Programmable DC Power Supply (Auto Range Model)
ADG-L-330-50-8	Programmable DC Power Supply (Auto Range Model)
ADG-L-330-75-12	Programmable DC Power Supply (Auto Range Model)
ADG-L-660-25-8	Programmable DC Power Supply (Auto Range Model)
ADG-L-1000-25-12	Programmable DC Power Supply (Auto Range Model)
ADG-L-001	Single-Phase Input Power Cord 3m (for 4kW/8kW)
ADG-L-002	Single-Phase Input Power Cord 5m (for 4kW/8kW)
ADG-L-003	Three-Phase Input Y Connection Power Cord 3m
ADG-L-004	Three-Phase Input Y Connection Power Cord 5m
ADG-L-005	Three-Phase Input △ Connection Power Cord 3m
ADG-L-006	Three-Phase Input △ Connection Power Cord 5m
ADG-L-007	RS-232/RS-485/USB/Ethernet (SCPI) Interface Board
ADG-L-008	Multiple Units Connection Cord DB25(Male * 2) 50 cm
ADG-L-013	GPIB Interface Board

ADG-L Dimensions

Unit : mm



*1. Load changes from 0% to 100% under nominal AC input

*2. Under nominal AC input, recovers to ±1% of full-scale output voltage for a 50% to 100% or 100% to 50% load change *3. Measured from 10% to 90% of the output voltage change - resistive load, typical * All specifications are subject to change without notice.

** Above specifications are under output voltage over 1% FS

ADG-P SPECIFICATIONS

30kW	Output Voltage	Output Current	Voltage Ripple (RMS)	Voltage Noise (Peak)	Voltage Slew Rate*1
ADG-P-40-750	0~40V	0~750A			
ADG-P-60-500	0~60V	0~500A	≦ 0.5%	≦ 3.7%	≦ 65ms
ADG-P-100-300	0~100V	0~300A			
ADG-P-200-150	0~200V	0~150A	≦ 0.26%	≦ 2%	≦ 60ms
ADG-P-240-125	0~240V	0~125A	≦ 0.19%		≦ 85ms
ADG-P-320-94	0~320V	0~94A	≦ 0.16%	≦ 0.88%	
ADG-P-400-75	0~400V	0~75A	≦ 0.13%		≦ 115ms
ADG-P-500-60	0~500V	0~60A		≦ 1.34%	
ADG-P-640-47	0~640V	0~47A	≦ 0.109%	≦ 0.77%	
ADG-P-800-38	0~800V	0~38A	≦ 0.07%	≦ 0.29%	
ADG-P-1000-30	0~1000V	0~30A	≦ 0.05%	≦ 0.27%	≦ 280ms
ADG-P-1600-18	0~1600V	0~18A	≦ 0.08%	≦ 0.4%	

50kW	Output Voltage	Output Current	Voltage Ripple (RMS)	Voltage Noise (Peak)	Voltage Slew Rate*1
ADG-P-40-1250	0~40V	0~1250A			
ADG-P-60-834	0~60V	0~834A	≦ 0.5%	≦ 3.7%	≦ 65ms
ADG-P-100-500	0~100V	0~500A			
ADG-P-200-250	0~200V	0~250A	≦ 0.26%	≦ 2%	≦ 60ms
ADG-P-240-208	0~240V	0~208A	≦ 0.19%		≦ 85ms
ADG-P-320-156	0~320V	0~156A	≦ 0.16%	≦ 0.88%	
ADG-P-400-125	0~400V	0~125A	≦ 0.13%		≦ 115ms
ADG-P-500-100	0~500V	0~100A		≦ 1.34%	
ADG-P-640-78	0~640V	0~78A	≦ 0.109%	≦ 0.77%	
ADG-P-800-63	0~800V	0~63A	≦ 0.07%	≦ 0.29%	
ADG-P-1000-50	0~1000V	0~50A	≦ 0.05%	≦ 0.27%	≦ 280ms
ADG-P-1600-31	0~1600V	0~31A	≦ 0.08%	≦ 0.4%	

75kW	Output Voltage	Output Current	Voltage Ripple (RMS)	Voltage Noise (Peak)	Voltage Slew Rate*1
ADG-P-40-1875	0~40V	0~1875A	≦ 1.3%	≦ 7%	
ADG-P-60-1250	0~60V	0~1250A	≦ 1.5%	≦ 5%	≦ 120ms
ADG-P-100-750	0~100V	0~750A	≦ 1.5%	≦ 5%	
ADG-P-320-234	0~320V	0~234A	< 0.1%	< 0.65%	≦ 90ms
ADG-P-640-117	0~640V	0~117A	≦ 0.1%	≦ 0.35%	≦ 120ms
ADG-P-1000-75	0~1000V	0~75A	≦ 0.2%	≦ 0.8%	≦ 130ms
ADG-P-1600-47	0~1600V	0~47A	≦ 0.1%	≦ 0.5%	≦ 300ms

100kW	Output Voltage	Output Current	Voltage Ripple (RMS)	Voltage Noise (Peak)	Voltage Slew Rate*1
ADG-P-40-2500	0~40V	0~2500A	≦ 1.3%	≦ 7%	
ADG-P-60-1666	0~60V	0~1666A	≦ 1.5%	≦ 5%	≦ 120ms
ADG-P-100-1000	0~100V	0~1000A	≦ 1.5%	≦ 5%	
ADG-P-320-312	0~320V	0~312A	< 0.1%	< 0.65%	≦ 90ms
ADG-P-640-156	0~640V	0~156A	≦ 0.1%	≦ 0.35%	≦ 120ms
ADG-P-1000-100	0~1000V	0~100A	≦ 0.2%	≦ 0.8%	≦ 130ms
ADG-P-1600-63	0~1600V	0~63A	≦ 0.1%	≦ 0.5%	≦ 300ms

*1 For output voltage change from 5% to 90% at maximum power after output soft start.

* Voltage ripple and noise specs are under full scale。

ADG-P SPECIFICATIONS

30kW		ADG-P-40-750	ADG-P-60-500	ADG-P-100-300	ADG-P-200-150	ADG-P-240-125	ADG-P-320-94
50kW		ADG-P-40-1250	ADG-P-60-834	ADG-P-100-500	ADG-P-200-250	ADG-P-240-208	ADG-P-320-156
AC Input	Voltage	3Φ3W + G 380Vac ± 15% (Option: 200V/208V/480V)					
	Frequency	47-63Hz					
	Power factor	≧0.9 at maximum power					
DC Output	Output Voltage	40V	60V	100V	200V	240V	320V
	Output Current (30kW)	750A	500A	300A	150A	125A	94A
	Output Current (40kW)	1000A	666A	400A	200A	166A	125A
	Output Current (50kW)	1250A	834A	500A	250A	208A	156A
	Line Regulation	< 0.3%			< 0.1%		
	Load Regulation	< 0.3%			< 0.065%	< 0.104%	< 0.14%
	Transient Response*2	≦4-12ms					
Measurement	Voltage Accuracy	0.5% F.S.					
	Voltage Resolution	0.1V					
	Current Accuracy	0.5% F.S.					
	Current Resolution	0.1A					
Protection	Type	Vin OVP, Vin UVP, OVP, OCP. OTP					
	OVP Range	5% - 115% from front panel					
	OCP Range	5% - 115% from front panel					
General	Efficiency	≧87% at maximum power			≧90% at maximum power		
	Remote Interface	RS-485 (Opt. GPIB / RS-232/Analog)					
	Operational Temperature	0° C - 40° C					
	Storage Temperature	-20° C - 70° C					
	Isolation	Input to Enclosure: 2000VAC					
	Dimension (H×W×D)	380V Input: 1050 x 600 x 800 (mm) / 41.4 x 23.7 x 31.5(inch) 220/200V/480V Input: 1385 x 600 x 800 (mm) 54.5 x 23.7 x 31.5(inch)					
	Weight	380V Input: approx. 225 kg / 497 lbs 200V/208V/480V Input: approx. 412 kg / 909 lbs			380V Input: approx. 187 kg / 413 lbs 200V/208V/480V Input: approx. 367 kg / 810 lbs		

30kW		ADG-P-400-75	ADG-P-500-60	ADG-P-640-47	ADG-P-800-38	ADG-P-1000-30	ADG-P-1600-18
50kW		ADG-P-400-125	ADG-P-500-100	ADG-P-640-78	ADG-P-800-63	ADG-P-1000-50	ADG-P-1600-31
AC Input	Voltage	3Φ3W + G 380Vac ± 15% (Option: 200V/208V/480V)					
	Frequency	47-63Hz					
	Power factor	≧0.9 at maximum power					
DC Output	Output Voltage	400V	500V	640V	800V	1000V	1600V
	Output Current (30kW)	75A	60A	47A	38A	30A	18A
	Output Current (40kW)	100A	80A	62A	50A	40A	25A

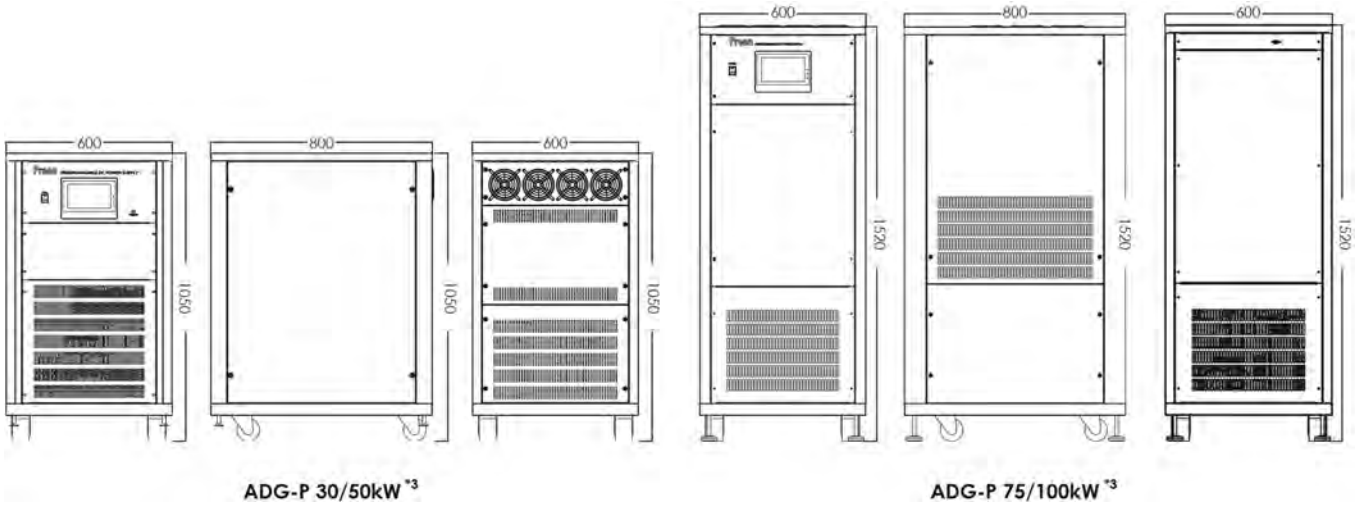
	Output Current (50kW)	125A	100A	78A	63A	50A	31A
	Line Regulation	< 0.1%					
	Load Regulation	< 0.032%	< 0.14%	< 0.132%	< 0.034%	< 0.02%	< 0.05%
	Transient Response[*2]	≦ 4-12ms					
Measurement	**Voltage Accuracy**	0.5% F.S.					
	Voltage Resolution	0.1V					
	Current Accuracy	0.5% F.S.					
	Current Resolution	0.1A					
Protection	**Type**	Vin OVP, Vin UVP, OVP, OCP. OTP					
	OVP Range	5% - 115% from front panel					
	OCP Range	5% - 115% from front panel					
General	**Efficiency**	≧ 90% at maximum power					
	Remote Interface	RS-485 (Opt. GPIB / RS-232/Analog)					
	Operational Temperature	0° C - 40° C					
	Storage Temperature	-20° C - 70° C					
	Isolation	Input to Enclosure: 2000VAC					
	Dimension (H×W×D)	380V Input: 1050 x 600 x 800 (mm) / 41.4 x 23.7 x 31.5(inch) 220/200V/480V Input: 1385 x 600 x 800 (mm) 54.5 x 23.7 x 31.5(inch)					
	Weight	380V Input: approx. 187 kg / 413 lbs 200V/208V/480V Input: approx. 367 kg / 810 lbs					

ADG-P SPECIFICATIONS

75kW		ADG-P-40 - 1875	ADG-P-60 - 1250	ADG-P-100 - 750	ADG-P-320 - 234	ADG-P-640 - 117	ADG-P-1000 -75	ADG-P-1600 -47
100kW		ADG-P-40 - 2500	ADG-P-60 - 1666	ADG-P-100 - 1000	ADG-P-320 - 312	ADG-P-640 - 156	ADG-P-1000 -100	ADG-P-1600 -63
AC Input	Voltage	3Φ3W + G 380Vac ± 15% (Option: 200V/208V/480V)						
	Frequency	47 - 63Hz						
	Power factor	≧ 90% at maximum power						
DC Output	Output Voltage	40V	60V	100V	320V	640V	1000V	1600V
	Output Current (75kW)	1875A	1250A	750A	234A	117A	75A	47A
	Output Current (100kW)	2500A	1666A	1000A	312A	156A	100A	63A
	Line Regulation	< 0.1%						
	Load Regulation	< 0.1%	< 0.15%	< 0.15%	< 0.08%	< 0.08%	< 0.1%	< 0.08%
	Transient Response*2	≦ 10-20ms						
Measurement	Voltage Accuracy	0.5% F.S.						
	Voltage Resolution	0.1V						
	Current Accuracy	0.5% F.S.						
	Current Resolution	0.1A						
Protection	Type	Vin OVP, Vin UVP, OVP, OCP. OTP						
	OVP Range	5% - 115% from front panel						
	OCP Range	5% - 115% from front panel						
General	Efficiency	≧ 87% at maximum power			≧ 90% at maximum power			
	Remote Interface	RS-485 (Opt. GPIB / RS-232/Analog)						
	Operational Temperature	0° C - 40° C						
	Storage Temperature	-20° C - 70° C						
	Isolation	Input to Enclosure: 2000VAC						
	Dimension (H×W×D)	380V Input: 1520 x 600 x 800 (mm) / 59.9 x 23.7 x 31.5 (inch) 200V/208V/480V Input: 2020 x 600 x 800 (mm) / 79.6 x 23.7 x 31.5 (inch)						
	Weight	380V Input: approx. 294kg / 648.3 lbs 200V/208V/480V Input: approx. 574kg / 1265.7 lbs						

ADG-P Dimensions

Unit: mm



ADG-P 30/50kW *3

ADG-P 75/100kW *3

*2 Recover to ±0.1% of regulated output with a 50% to 100% or 100% to 50% step load change.
*3 The diagrams and dimensions are for 380V input models * All specifications are subject to change without notice.

** Above specifications are for output voltage over 1% F.S.

*** Specifications for line regulation and load regulation are under full scales.

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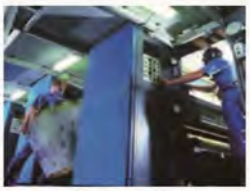
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