

Genesys™

*Programmable DC Power Supplies
750W/1500W in 1U
Built in RS232 & RS485 Interface
GPIB (IEEE488/488.2 SCPI) optional.*



invensys
LAMBDA 

The Genesys™ family of programmable power supplies sets a new standard for flexible, reliable, AC/DC power systems in OEM, Industrial and Laboratory applications.

Features include:

- **Highest Power Density available 1500W in 1U**
- **Wide Range Input 85 - 265Vac Continuous, single phase, 47/63Hz**
- **Active Power Factor Correction 0.99**
- **Output up to 600V, Current up to 200A**
- **Built in RS232/RS485 Interface**
- **Software Calibration**
- **Last Setting Memory**
- High Resolution 16 bits ADCs & DACs
- Reliable Encoders for Voltage and Current Adjustment
- Constant Voltage/Constant Current auto crossover
- Parallel Operation with Active Current Sharing
- Independent Remote ON/OFF and Remote Enable/Disable
- External Analog Programming and Monitoring
- Reliable Modular and SMT Design
- 19" Rack Mounted ATE and OEM applications
- Five Year Warranty
- Optional Isolated Analog Programming and Monitoring
- Optional GPIB (SCPI) Interface
- LabView® drivers (LabView® is registered trademark of National Instruments Corporation)

Worldwide Safety Agency Approvals CE Mark for LVD and EMC Regulation



Applications

Genesys™ power supplies have been designed to meet the demands of a wide variety of applications.

Test and Measurement

Last setting memory simplifies test design and requires no battery backup.

Built in RS232/RS485 gives maximum system flexibility along with 0-5V and 0-10V, selectable analog programming

Wide range of available inputs allows testing of many different devices.

Semiconductor Burn-in

Safe Start may be enabled to restart at zero output to protect load.

Wide range input (85-265VAC) with Active Power Factor correction rides through input transients easily.

Component Test

High power density, zero stacking and single wire parallel operation give maximum system flexibility

Laser Diode

OVP is directly set on Voltage Meter, assuring accurate protection settings.

Current Limit Fold Back assures load is protected from current surges.

Heater Supplies

Smooth, reliable encoders enhance front panel control.

Remote analog programming is user selectable 0-5V or 0-10V.

RF Amplifiers and Magnets

Robust design assures stable operation under a wide variety of loads.

Excellent linearity in voltage and current mode.

Front Panel Description



1. AC On/Off
2. Air Intake allows zero stacking for maximum system flexibility and power density
3. Reliable encoder controls Output Voltage and sets Address.
4. Volt Meter shows Output Voltage and directly displays OVP, UVL and Address settings.
5. Amp Meter also displays baud rate.
6. Reliable encoder controls Output Current and sets baud rate.
7. Function/Status LED's
 - Alarm
 - Foldback Mode
 - Fine Control
 - Remote Mode
 - Preview Settings
 - Output On
8. Pushbuttons allow flexible user configuration
 - Coarse and Fine Voltage and Current Adjustment of Output
 - Preview Settings and Set Voltage while in Current Mode or with Output OFF
 - Set OVP and UVL Limits
 - Set Current Foldback
 - Local/Remote Mode and select Address and Baud Rate
 - Output ON/OFF and Auto Start/Safe Start Mode

Rear Panel Description



1. Remote/Local Output Voltage Sense Connections
2. DIP Switches select 0-5V or 0-10V Programming and other functions.
3. DB25 (Female) connector allows (Non-isolated) Analog Program and Monitor as well as other functions.
4. RS485 Out to other Genesys Power Supplies
5. RS232/RS485 IN Remote Serial Programming
6. Output Terminals are rugged bus bars for 6-60V Output, higher output voltage models have terminal block connector.
7. Exit air assures reliable operation when zero stacked
8. Wide-Range Input 85-265VAC continuous, 47/63Hz with Active Power Factor Correction (0.99)
AC Input Connector 750W: IEC320, 1500W: Screw terminal Model Shown
9. Position for Optional Isolated Analog Programming or GPIB Digital Interface model shown

General Specifications Genesys™ 750W/1500W

2.1 INPUT CHARACTERISTICS

1. Input voltage/freq. (*1)	85–265Vac continuous, 47–63Hz, single phase
2. Power Factor	0.99 @ 100/200Vac, rated output power.
3. EN61000-3-2,3 compliance	Complies with EN61000-3-2 class A and EN61000-3-3 at 20–100% output power.
4. Input current 100/200Vac	750W :10.5A / 5A, 1500W :21A / 11A
5. Inrush current 100/200Vac	750W :Less than 25A, 1500W :Less than 50A
6. Hold-up time	More than 20mS , 100Vac , at 100% load.

2.2 POWER SUPPLY CONFIGURATION

1. Parallel Operation	Up to 4 units in master/slave mode with single wire current balance connection
2. Series Operation	Up to 2 units. with external diodes. 600V Max to Chassis ground

2.3 ENVIRONMENTAL CONDITIONS

1. Operating temp	0–50 °C, 100% load.
2. Storage temp	-20–70°C
3. Operating humidity	30–90% RH (no condensation).
4. Storage humidity	10–95% RH (no condensation).
5. Vibration	MIL-810E, method 514.4 , test cond. I-3.3.1 . The EUT is fixed to the vibrating surface.
6. Shock	Less than 20G , half sine , 11mSec. Unit is unpacked.
7. Altitude	Operating: 10000ft (3000m) , Non operating: 40000ft (12000m).

2.4 EMC

1. Applicable standards:	EN55024
2. ESD	IEC1000-4-2. Air-disch.-8KV, contact disch.-4KV
3. Fast transients	IEC1000-4-4. 2KV
4. Surge immunity	IEC1000-4-5. 1KV line to line, 2KV line to ground
5. Conducted immunity	IEC1000-4-6, 3V
6. Radiated immunity	IEC1000-4-3, 3V/m
7. Conducted emission	EN55022B, FCC part 15J-B, VCCI-2
8. Radiated emission	EN55022A, FCC part 15-A, VCCI-1
9. Voltage dips	EN61000-4-11
10. Conducted emission	EN55022B, FCC part 15-B, VCCI-2.
11. Radiated emission	EN55022A, FCC part 15-A, VCCI-1.

2.5 SAFETY

1. Applicable standards:	CE Mark, UL60950, EN60950 listed. Vout<60V: Output is SELV , IEEE/Isolated analog are SELV. 60<Vout<400V: Output is hazardous, IEEE/Isolated analog are SELV. 400<Vout<600V: Output is hazardous, IEEE/Isolated analog are not SELV.
2. Withstand voltage	Vout<60V models :Input-Outputs (SELV): 3.0KVrms 1min, Input-Ground: 2.0KVrms 1min. 60<Vout<600V models: Input-Haz. Output: 2.5KVrms 1min, Input-SELV: 3KVrms 1min. Hazardous Output.-SELV: 1.9KVrms 1min, Hazardous Output-Ground:1.9KVrms 1min. Input-Ground: 2KVrms 1min.
3. Insulation resistance	More than 100Mohm at 25°C , 70% RH.

2.6 MECHANICAL CONSTRUCTION

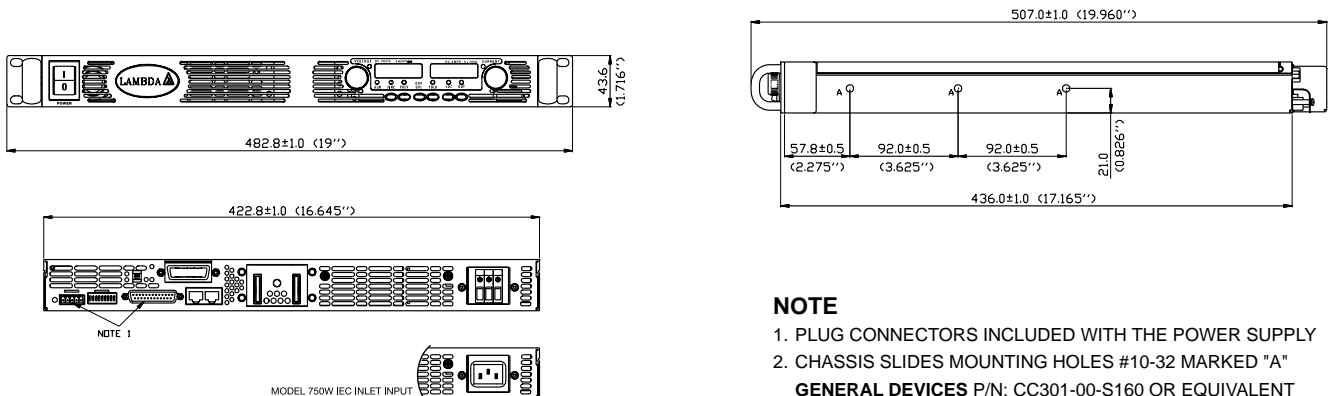
1. Cooling	Forced air flow: from front to rear. No ventilation holes at the top or bottom of the chassis Variable fan speed.
2. Dimensions (WxHxD)	W: 422.8mm, H: 43.6mm, D: 432.8mm (excluding connectors, encoders, handles etc..)
3. Weight	750W : 7Kg (15.4 Lbs) 1500W : 8.5Kg (18.7 Lbs)
4. AC Input connector	750W: AC Inlet IEC320. 1500W: screw terminal block, Phoenix P/N: FRONT-4-H-7.62 , with strain relief
5. Output connectors	6V to 60V models: bus-bars (hole Ø 8.5mm). 80V to 600V models :terminal block ,Phoenix P/N: FRONT-4-H-7.62

2.7 RELIABILITY SPECS

1. Warranty	5 years.
-------------	----------

*1: For cases where conformance to various safety standards (UL, IEC etc.) is required, to be described as 100-240Vac (50/60Hz).

Outline Drawing Genesys™ 750W/1500W Units



NOTE

1. PLUG CONNECTORS INCLUDED WITH THE POWER SUPPLY
2. CHASSIS SLIDES MOUNTING HOLES #10-32 MARKED "A" GENERAL DEVICES P/N: CC301-00-S160 OR EQUIVALENT

Genesys™ Power Parallel and Series Configurations

Parallel operation - Master/ Slave:

Active current sharing allows up to 4 units to be connected in an auto parallel configuration for four times the output power.

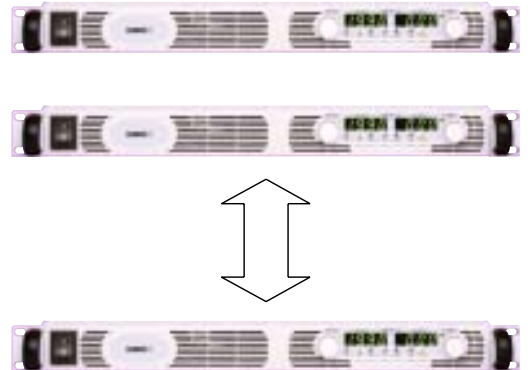
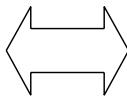
Series operation

Up to two units may be connected in series to increase the output voltage or to provide bipolar output. (Max 600V to Chassis Ground)



Remote Programming via RS232&RS485 Interface

Standard Serial Interface allows chain control of up to 31 power supplies on the same bus with built in RS232&485 Interface



Programming Options (Factory installed)

Digital Programming via IEEE Interface

- IEEE 488.2 Compliant
- Program Voltage
- Measure Voltage
- Over Voltage setting and shutdown
- Error and Status Messages

P/N: IEEE

- SCPI Compliant
- Program Current
- Measure Current
- Current Foldback shutdown

Isolated Analog Programming

Four Channels to Program and Monitor Voltage and Current

Isolation allows operation with floating references and difficult electrical environments.

Choose between programming with Voltage or Current.

Connection via Removable terminal block P/N: Phoenix MC1,5/8-ST-3.81

P/N: IS510 - Voltage Programming, user selectable 0-5V or 0-10V signal

Power supply Voltage and Current Programming accuracy +/-1%

Power supply Voltage and Current Monitoring accuracy +/-1.5%

P/N: IS420 - Current Programming with 4-20mA signal

Power supply Voltage and Current Programming accuracy +/-1%

Power supply Voltage and Current Monitoring accuracy +/-1.5%

Power Supply Identification / Accessories

How to order

GEN	600	-	2.6	-	-	Factory Options	AC Cable option is 750W only
Series Name	Output Voltage (0~600V)		Output Current (0~2.6A)			Option: IEEE IS510 IS420	Region: E - Europe J - Japan I - Middle East U - North America

Models 750/1500W

Model	Output Voltage VDC	Output Current (A)	Output Power (W)
GEN6-100	0~6V	0~100	600
GEN6-200		0~200	1200
GEN8-90	0~8V	0~90	720
GEN8-180		0~180	1440
GEN12.5-60	0~12.5V	0~60	750
GEN12.5-120		0~120	1500
GEN20-38	0~20V	0~38	760
GEN20-76		0~76	1520
GEN30-25	0~30V	0~25	750
GEN30-50		0~50	1500
GEN40-19	0~40V	0~19	760
GEN40-38		0~38	1520

Model	Output Voltage VDC	Output Current (A)	Output Power (W)
GEN60-12.5	0~60V	0~12.5	750
GEN60-25		0~25	1500
GEN80-9.5	0~80V	0~9.5	760
GEN80-19		0~19	1520
GEN100-7.5	0~100V	0~7.5	750
GEN100-15		0~15	1500
GEN150-5	0~150V	0~5	750
GEN150-10		0~10	1500
GEN300-2.5	0~300V	0~2.5	750
GEN300-5		0~5	1500
GEN600-1.3	0~600V	0~1.3	780
GEN600-2.6		0~2.6	1560





Factory option

RS232/485 Interface built in Standard
 GPIB Interface
 Voltage Programming Isolated analog interface
 Current Programming Isolated analog interface

P/N

-
 IEEE
 IS510
 IS420

AC Cords sets (750W only)

Region	Europe	Japan	Middle East	North America
Output Power	750W	750W	750W	750W
AC Cords	10A/250 Vac L=2m	13A/125 Vac L=2m	10A/250 Vac L=2m	13A/125 Vac L=2m
Wall Plug	INT'L 7/VII		SI-32	NEMA 5-15P
Power Supply Connector	IEC320-C13	IEC320-C13	IEC320-C13	IEC320-C13
				
Part Number	P/N: GEN/E	P/N: GEN/J	P/N: GEN/I	P/N : GEN/U

Accessories

1. Communication cable

RS232/RS485 Cable is used to connect the power supply to the PC Controller

Mode	RS485	RS232	RS232
PC Connector	DB-9F	DB-9F	DB-25F
Communication Cable	Shield Ground L=2m	Shield Ground L=2m	FShield Ground L=2m
Power Supply Connector	EIA/TIA-568A (RJ-45)	EIA/TIA-568A (RJ-45)	EIA/TIA-568A (RJ-45)
P/N	GEN/485-9	GEN/232-9	GEN/232-25

Serial link cable*

Chaining Power Supply to Power Supply up to 31 GEN units

Mode	Power Supply Connector	Communication Cable	P/N
RS485	EIA/TIA-568A (RJ-45)	Shield Ground L=50cm	GEN/RJ45

* Included with the power supply