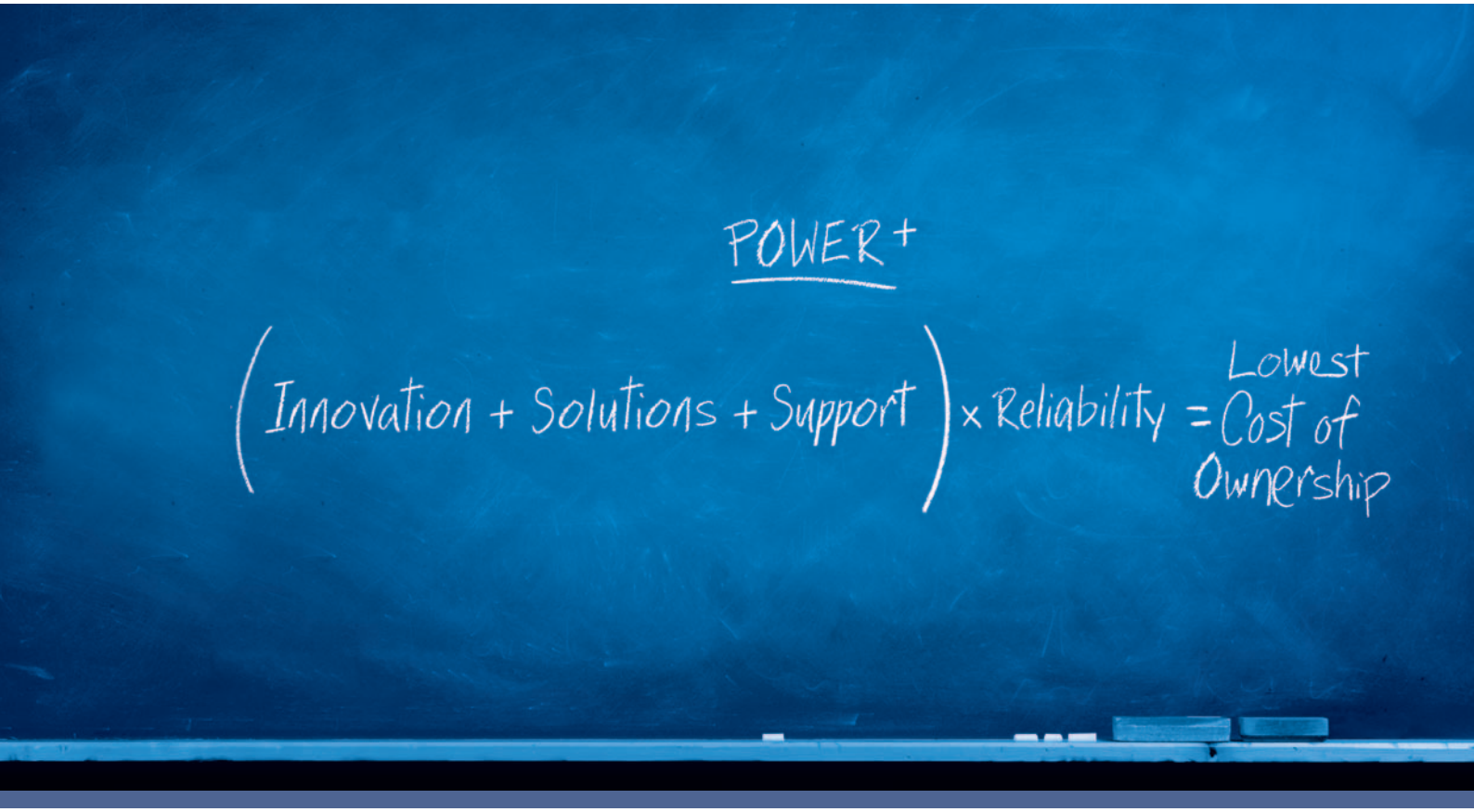
LAMBDA

Programmable power supplies

Power+ INNOVATION · SOLUTIONS · SUPPORT · RELIABILITY

Power+. Theory equals reality.



Power alone is not enough which is why Lambda offers Power+

Power+ is our promise to deliver the lowest cost of ownership in the market through a combination of technical innovation driven by our customers needs, a wide range of power solutions, global application and logistics support, and also reliability in our products and everything we do.

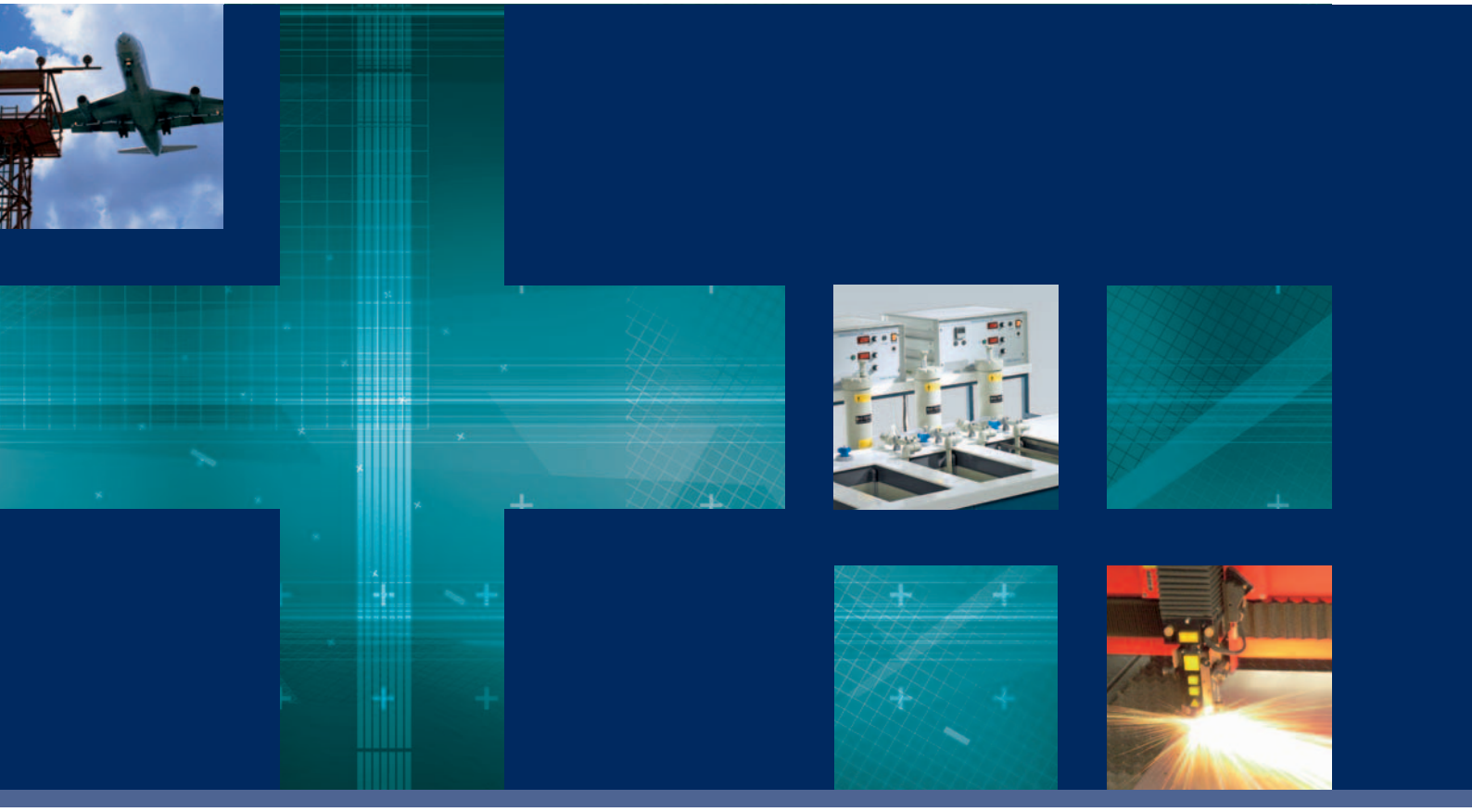
Lambda Power+ turning the theory of lowest cost of ownership into reality.

Laboratory Power Supplies

The Genesys and Zero-Up are two excellent series of laboratory power supplies. Their innovative design based on microcontrollers and encoders give you a great performance and high reliability. The RS-232/RS-485 Interface enables you to implement these units easily in any automatic test equipment.

Contents

Intelligent power for science and industry

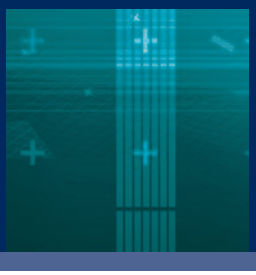


More and more applications require no longer just a fixed static voltage. Modern test-systems has to vary the voltage and current limit during the operation and additionally they should be able to monitor and store the results of each test run.

Genesys and Zero-Up are designed to fulfil all these requirements by offering RS232/485 interface as a standard for communication between the laboratory power supply and the controller of the complete system. With the SCPI-commands, the Genesys can easily be addressed from any graphical user interface for process-control (for example LabView) or any computer language.







Application examples

A broad range of applications could be powered by Genesys and Zero-Up. Based on their various features, Genesys and Zero are the best solution for many different tasks in industrial control and test applications.

Automotive
- Component Burn-in
- Fuel Cell
- Lamp Testing
- Component Development

Semiconductor
- Burn-in
- Deposition
- Ion Implantation

Medical
- X-Ray
- Oncology
- MRI
- Magnets
- Gradient Amplifiers

Aerospace & Defence
- RF communication
- Satellite Test Systems
- Materials Research
- ATE systems

Test & Measurement
- Large ATE Systems
- Component Test
- Analytical Instrument
- Module and Component Burn-in

Laser
- Medical
- Marking
- Cutting
- Diode Burn-in



Genesys™

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

- **High Power Density**
  - 750 / 1500 W in 1 U
  - 750 W in 9.5" 1 U
  - 3.3 / 5 kW in 2 U
  - 10 / 15 kW in 3 U
- **Wide Range of popular worldwide AC inputs**
  - 1-phase wide range (85 – 265 VAC)
  - 1-phase (230 VAC)
  - 3-phase (208 VAC, 400 VAC, 480 VAC) model dependent
- **Active/passive Power Factor Correction** (Single-Phase & Three-Phase AC Input)
- **Output Voltage up to 600 V, Current up to 1000 A**
- **Built-in RS-232 / RS-485 Interface Standard**
- **Global Commands for Serial RS-232 / RS-485 Interface**
- **Auto-Re-Start / Safe-Start: user-selectable**
- **Last-Setting Memory; Front panel lockout**
- **High Resolution 16 bit ADCs & DACs**
- **Low Ripple & Noise**
- **Front Panel Lock selectable from Front Panel or Software**
- **Reliable Encoders for Voltage and Current Adjustment**
- **Constant Voltage / Constant Current auto-crossover**
- **Parallel Operation with Active Current Sharing; up to four identical units**
- **Advanced Parallel Master/Slave** Total Current is programmed and measured via the master.
- **Independent Remote ON/OFF and Remote Enable / Disable**
- **External Analog Programming and Monitoring** (user-selectable 0 – 5 V & 0 –10 V)
- **Programmable foldback delay for current limit**
- **Reliable Modular and SMT Design**
- **19" Rack Mount capability for ATE and OEM applications**
- **Optional Interfaces**
  - Isolated Analog Programming and Monitoring Interface (0– 5 V / 0 –10 V & 4 – 20 mA)
  - IEEE 488.2 SCPI (GPIB) Mulit-Drop
  - LXI compliant LAN interface
- **LabView™ Genesys™ Control (Runtime Modul) and Drivers**
- **Five Year Warranty**

Worldwide Safety Agency Approvals; CE Mark for LVD and EMC Regulation

c UL us LISTED

TÜV Rheinland GS geprüfte Sicherheit CE

Applications

Genesys™ power supplies have been designed to meet the demands of a wide variety of applications. System Designers will appreciate new, standard, remote programming features such as Global commands. Also, new high-speed status monitoring is available for the RS-485 bus.

Test Systems using the IEEE-488 bus may achieve significant cost savings by incorporating the Optional IEEE Multi-Drop Interface for a Master and up to 30 RS-485 Multi-Drop Slaves.

Higher power systems Higher power systems can be configured with up to four Genesys units. Each Genesys unit can be stacked zero space between them (zero stack). Between the modules there is no additional space required.

Flexible configuration is provided by the complete Genesys™ Family: 1 U 750 W Half-Rack, 1 U 750 W / 1500 W, 2 U 3.3 kW / 5 kW, 3 U 10 / 15 kW Full-Rack. All are identical in Front Panel, Rear Panel Analog, and all Digital Interface Commands.

OEM Designers have a wide variety of Inputs and Outputs from which to select depending on application and location.

Drivers / Software for Genesys™

The Genesys™ family of programmable power supplies contain several interfaces like RS-232/RS-485, IEEE 488.2 SCPI ore LAN LXI , to be controlled from a computer-system. With Graphical programming languages like for example LabView™ the Genesys can easily be integrated into complex test-applications and production lines.

On the website Lambda offers free download of several drivers and runtime engines to control Genesys™. In the product section for laboratory power supplies there is a link to the software download for each laboratory power supply series.

The biggest variety of drivers is available from the Lambda High-Power website: **www.lambda-hp.com**

After registration on the following website you get access to drivers and runtime engines for several releases of LabView™ and LabWindows™.
www.lambda-hp.com/register.htm

The driver download is updated continously. For special requirements, please contact your local Technical Support.

Genesys™ Control Software 3.0

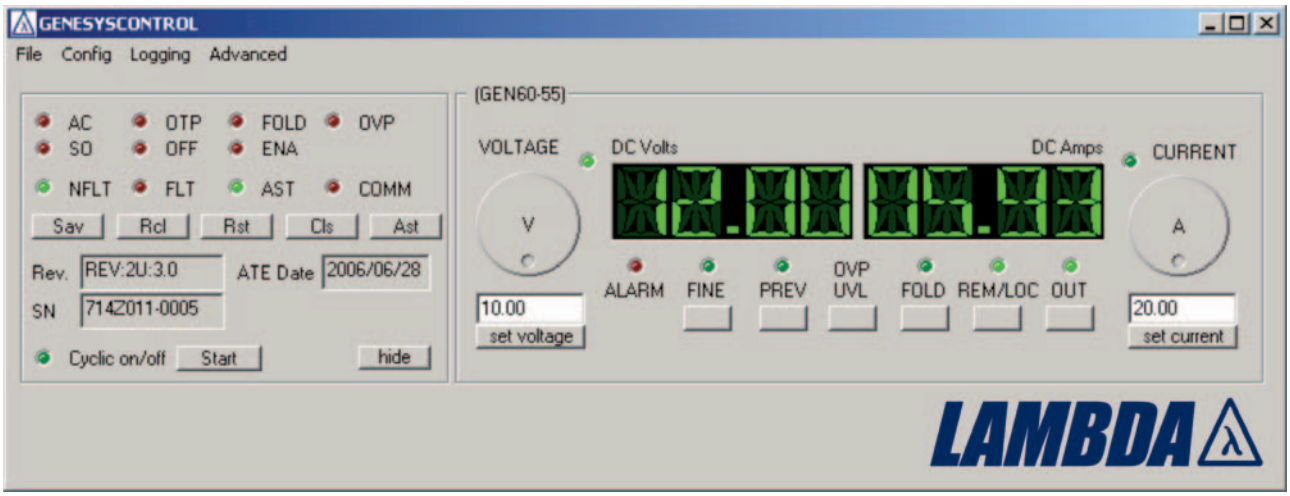
This is a easy to use runtime engine for windows to control up to two Genesys units via RS232-interface. The software can easily be downloaded as a ZIP-file including documentation.

General Information

- GenesysControl is an application to control up to two Genesys devices via the serial line.
- GenesysControl supports all Genesys types (GEN and GENH) and all available firmware versions (up to Rev. 3.0).
- GenesysControl tries to look and behave like the original Genesys devices. Note that there might be some differences between a Genesys device and GenesysControl!

Prerequisites

- A Windows PC with Win 95, 98, 98SE, ME, 2000 or XP, >200 MHz CPU, at least 32 MB Ram and 1 MB of HD space.
- One or two Genesys device(s).
- Connect your Genesys device(s) to an empty serial port of your PC. Check the “Genesys User Manual” for more details on this.
- If you use two Genesys devices, ensure that different device addresses are used!





Models GENH750 W in 1 U halfrack

Model	Output Voltage VDC	Output Current (A)	Output Power (W)
GENH6-100	0~6 V	0~100 A	600 W
GENH8-90	0~8 V	0~90 A	720 W
GENH12.5-60	0~12.5 V	0~60 A	750 W
GENH20-38	0~20 V	0~38 A	760 W
GENH30-25	0~30 V	0~25 A	750 W
GENH40-19	0~40 V	0~19 A	760 W
GENH60-12.5	0~60 V	0~12.5 A	750 W
GENH80-9.5	0~80 V	0~9.5 A	760 W
GENH100-7.5	0~100 V	0~7.5 A	750 W
GENH150-5	0~150 V	0~5 A	750 W
GENH300-2.5	0~300 V	0~2.5 A	750 W
GENH600-1.3	0~600 V	0~1.3 A	780 W

Models GEN750/1500 W in 1 U 19” rack

Model	Output Voltage VDC	Output Current (A)	Output Power (W)
GEN6-100	0~6 V	0~100 A	600 W
GEN6-200		0~200 A	1200 W
GEN8-90	0~8 V	0~90 A	720 W
GEN8-180		0~180 A	1440 W
GEN12.5-60	0~12.5 V	0~60 A	750 W
GEN12.5-120		0~120 A	1500 W
GEN20-38	0~20 V	0~38 A	760 W
GEN20-76		0~76 A	1520 W
GEN30-25	0~30 V	0~25 A	750 W
GEN30-50		0~50 A	1500 W
GEN40-19	0~40 V	0~19 A	760 W
GEN40-38		0~38 A	1520 W
GEN50-30	0~50 V	0~30 A	1500 W
GEN60-12.5	0~60 V	0~12.5 A	750 W
GEN60-25		0~25 A	1500 W
GEN80-9.5	0~80 V	0~9.5 A	760 W
GEN80-19		0~19 A	1520 W
GEN100-7.5	0~100 V	0~7.5 A	750 W
GEN100-15		0~15 A	1500 W
GEN150-5	0~150 V	0~5 A	750 W
GEN150-10		0~10 A	1500 W
GEN300-2.5	0~300 V	0~2.5 A	750 W
GEN300-5		0~5 A	1500 W
GEN600-1.3	0~600 V	0~1.3 A	780 W
GEN600-2.6		0~2.6 A	1560 W

Power Supply Identification / GENH 750 W 1 U
How to order

GEN H	600	–	2.6	–	
					Factory Options
Series Name	Output Voltage (0~600 V)		Output Current (0~2.6 A)		Option: IEEE IS510 IS420 LAN

Factory Option GENH 750 W	P/N:
RS-232/RS-485 Interface Built-in Standard	–
IEEE 488.2 (GPIB) Interface	IEEE
Voltage Programming Isolated Analog Interface	IS510
Current Programming Isolated Analog Interface	IS420
LAN Interface	LAN

Power Supply Identification GEN 750/1500 W 1U
How to order

GEN	600	–	2.6	–	
					Factory Options
Series Name	Output Voltage (0~600 V)		Output Current (0~2.6 A)		Option: IEEE IS510 IS420 LAN

Factory Option GEN 750/1500 W	P/N:
RS-232/RS-485 Interface Built-in Standard	–
IEEE 488.2 (GPIB) Interface	IEEE
Voltage Programming Isolated Analog Interface	IS510
Current Programming Isolated Analog Interface	IS420
LAN Interface	LAN

Models GEN 3.3 / 5 kW in 2 U 19" rack

Model	Output Voltage VDC	Output Current (A)	Output Power (W)	*
GEN-8-400 GEN-8-600	0 ~ 8 V	0 ~ 400 A 0 ~ 600 A	3200 W 4800 W	A
GEN-10-330 GEN-10-500	0 ~ 10 V	0 ~ 330 A 0 ~ 500 A	3300 W 5000 W	C
GEN-15-220	0 ~ 15 V	0 ~ 220 A	3300 W	
GEN-16-310	0 ~ 16 V	0 ~ 310 A	4960 W	B
GEN-20-165 GEN-20-250	0 ~ 20 V	0 ~ 165 A 0 ~ 250 A	3300 W 5000 W	C
GEN-30-110 GEN-30-170	0 ~ 30 V	0 ~ 110 A 0 ~ 170 A	3300 W 5100 W	B
GEN-40-85 GEN-40-125	0 ~ 40 V	0 ~ 85 A 0 ~ 125 A	3400 W 5000 W	B
GEN-60-55 GEN-60-85	0 ~ 60 V	0 ~ 55 A 0 ~ 85 A	3300 W 5100 W	A
GEN-80-42 GEN-80-65	0 ~ 80 V	0 ~ 42 A 0 ~ 65 A	3360 W 5200 W	C
GEN-100-33 GEN-100-50	0 ~ 100 V	0 ~ 33 A 0 ~ 50 A	3300 W 5000 W	C
GEN-150-22 GEN-150-34	0 ~ 150 V	0 ~ 22 A 0 ~ 34 A	3300 W 5100 W	A
GEN-300-11 GEN-300-17	0 ~ 300 V	0 ~ 11 A 0 ~ 17 A	3300 W 5100 W	B
GEN-600-5.5 GEN-600-8.5	0 ~ 600 V	0 ~ 5.5 A 0 ~ 8.5 A	3300 W 5100 W	A

Power Supply Identification GEN 3.3 / 5 kW in 2 U How to order

GEN	8	–	400	–		–	
Series Name	Output Voltage (0~8 V)		Output Current (0~400 A)		Factory Options Option: IEEE IS510 IS420 LAN		Factory AC Input Options 1P230 (Single Phase 230 VAC) 3P208 (Three Phase 208 VAC) 3P400 (Three Phase 400 VAC)

Factory Option GEN 3.3 / 5 kW

RS-232/RS-485 Interface Built-in Standard	–
IEEE 488.2 (GPIB) Interface	IEEE
Voltage Programming Isolated Analog Interface	IS510
Current Programming Isolated Analog Interface	IS420
LAN Interface	LAN

* Development Priority

The new GEN 5 kW units will be introduced to the market during the year 2008.
A-models will be available from December 2007 on.
B-models will be available from June 2008 on.
C-models will be available from November 2008 on.
Please ask Technical Sales for latest status.

Models GEN 10 / 15 kW in 3 U 19" rack

Model	Output Voltage VDC	Output Current (A)	Output Power (W)
GEN-7.5-1000	0 ~ 7.5 V	0 ~ 1000 A	7.5 kW
GEN-10-1000	0 ~ 10 V	0 ~ 1000 A	10 kW
GEN-12.5-800	0 ~ 12,5 V	0 ~ 800 A	10 kW
GEN-20-500	0 ~ 20 V	0 ~ 500 A	10 kW
GEN-25-400	0 ~ 25 V	0 ~ 400 A	10 kW
GEN-30-333	0 ~ 30 V	0 ~ 333 A	10 kW
GEN-40-250	0 ~ 40 V	0 ~ 250 A	10 kW
GEN-50-200	0 ~ 50 V	0 ~ 200 A	10 kW
GEN-60-167 GEN-60-250	0 ~ 60 V	0 ~ 167 A 0 ~ 250 A	10 kW 15 kW
GEN-80-125 GEN-80-187.5	0 ~ 80 V	0 ~ 125 A 0 ~ 187.5 A	10 kW 15 kW
GEN-100-100 GEN-100-150	0 ~ 100 V	0 ~ 100 A 0 ~ 150 A	10 kW 15 kW
GEN-125-80 GEN-125-120	0 ~ 125 V	0 ~ 80 A 0 ~ 120 A	10 kW 15 kW
GEN-150-66 GEN-150-100	0 ~ 150 V	0 ~ 66 A 0 ~ 100 A	10 kW 15 kW
GEN-200-50 GEN-200-75	0 ~ 200 V	0 ~ 50 A 0 ~ 75 A	10 kW 15 kW
GEN-250-40 GEN-250-60	0 ~ 250 V	0 ~ 40 A 0 ~ 60 A	10 kW 15 kW
GEN-300-33 GEN-300-50	0 ~ 300 V	0 ~ 33 A 0 ~ 50 A	10 kW 15 kW
GEN-400-25 GEN-400-37.5	0 ~ 400 V	0 ~ 25 A 0 ~ 37.5 A	10 kW 15 kW

Model	Output Voltage VDC	Output Current (A)	Output Power (W)
GEN-500-20 GEN-500-30	0 ~ 500 V	0 ~ 20 A 0 ~ 30 A	10 kW 15 kW
GEN-600-17 GEN-600-25	0 ~ 600 V	0 ~ 17 A 0 ~ 25 A	10 kW 15 kW

Power Supply Identification GEN 10 / 15 kW

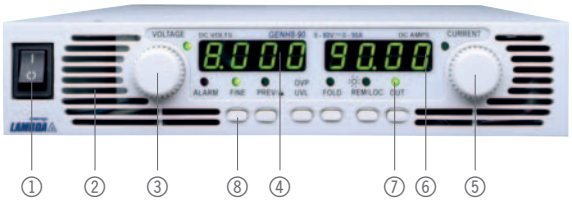
GEN	10	–	1000	–	MD	–	
Series Name	Output Voltage (0~10 V)		Output Current (0~1000 A)		Factory Options Option: IEMD IS510 IS420 LAN		Factory AC Input Options 3P208 (Three Phase 208 VAC) 3P400 (Three Phase 400 VAC) 3P480 (Three Phase 480 VAC)

Factory Option GEN 10/15 kW

	P/N:
RS-232/RS-485 Interface Built-in Standard	–
GPIB (Multi Drop Master) Interface	IEMD
Voltage Programming Isolated Analog Interface	IS510
Current Programming Isolated Analog Interface	IS420
LAN Interface (Complies with LXI Class C)	LAN

Front Panel Description

GENH 750 W

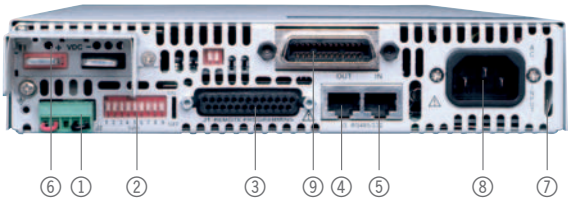


GEN 750/1500 W in 1 U

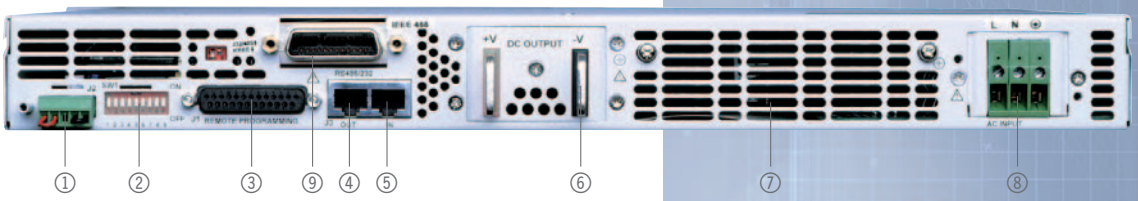
1. ON/OFF Switch
2. Air Intake allows zero stacking for maximum system flexibility and power density.
3. Reliable encoder controls Output Voltage and sets Address and Baud rate.
4. Volt Display shows Output Voltage and directly displays OVP, UVL and Address settings.
5. Reliable encoder controls Output Current, sets Baud rate and Advanced Parallel Mode.
6. Current Display shows Output Current and displays Baud rate. Displays total current in Parallel Master/ Slave Mode.
7. Function/Status LEDs:
   - ● Alarm
   - ● Fine Control
   - ● Preview Settings
   - ● Foldback Mode
   - ● Remote Mode
   - ● Output On
8. Pushbuttons allow flexible user configuration:
   - Coarse and Fine adjustment of Output Voltage/Current and Advanced Parallel Master/Slave Mode.
   - Preview settings and set Voltage/Current with Output OFF, Front Panel Lock.
   - Parallel Master/Slave
   - Set OVP and UVL Limits
   - Set Current Foldback
   - Local/Remote Mode and select Address and Baud rate.
   - Output ON/OFF and Auto-Re-Start/Safe-Start Mode.

Rear Panel Description

GENH 750 W



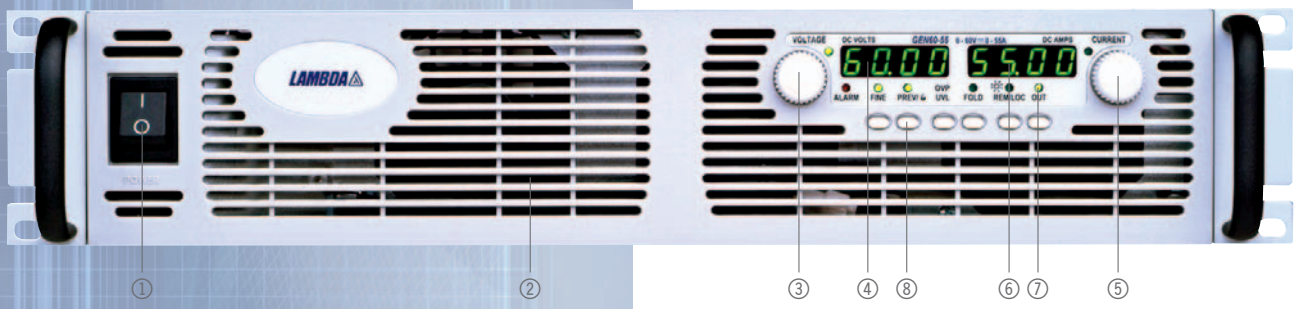
GEN 750/1500 W in 1 U



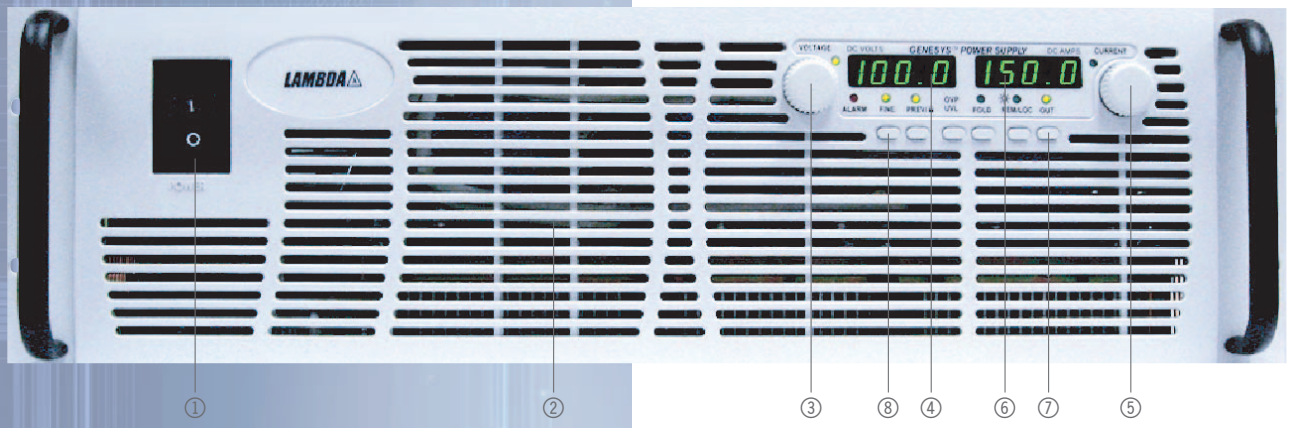
1. Remote/Local Output Voltage Sense Connections.
2. DIP Switches select 0–5 V or 0–10 V Programming and other functions.
3. DB25 (Female) connector allows (Non-isolated) Analog Program and Monitor and other functions.
4. RS-485 OUT to other Genesys™ Power Supplies.
5. RS-232/RS-485 IN Remote Serial Programming.
6. Output Connections:
   - Rugged busbars (shown) for up to 60 V Output
   - Wire clamp connector for Outputs
7. Exit air assures reliable operation when zero stacked.
8. Input:
   - IEC 320 connector for 750 W models
   - Wire clamp terminal with strain relief for 1500 W models
9. Optional Interfaces Position for IEEE 488.2 (GPIB), Isolated Analog Interface, LAN interface or USB interface.

Front Panel Description

GEN 3 / 5 kW in 2 U



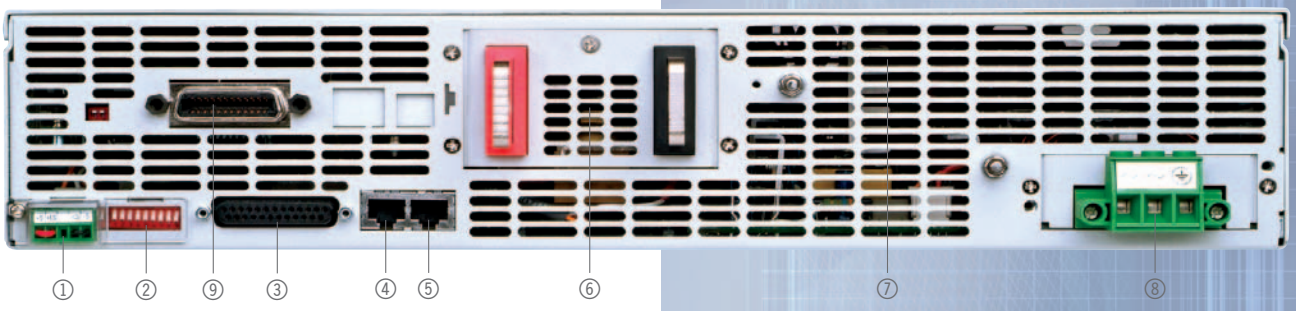
GEN 10 / 15 kW in 3 U



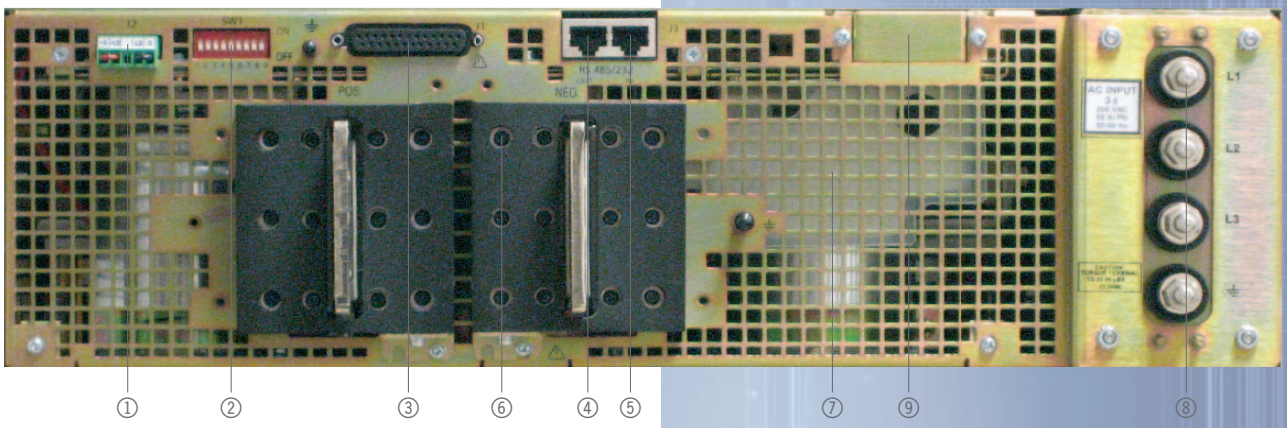
1. ON/OFF Switch
2. Air Intake allows zero stacking for maximum system flexibility and power density.
3. Reliable encoder controls Output Voltage and sets Address and Baud rate.
4. Volt Display shows Output Voltage and directly displays OVP, UVL and Address settings.
5. Reliable encoder controls Output Current, sets Baud rate and Advanced Parallel Mode.
6. Current Display shows Output Current and displays Baud rate. Displays total current in Parallel Master/ Slave Mode.
7. Function/Status LEDs:
   - Alarm
   - Fine Control
   - Preview Settings
   - Foldback Mode
   - Remote Mode
   - Output On
8. Pushbuttons allow flexible user configuration:
   - Coarse and Fine adjustment of Output Voltage/Current and Advanced Parallel Master/Slave Mode
   - Preview settings and set Voltage/Current with Output OFF, Front Panel Lock
   - Parallel Master/Slave
   - Set OVP and UVL Limits
   - Set Current Foldback
   - Local/Remote Mode and select Address and Baud rate
   - Output ON/OFF and Auto-Re-Start/Safe-Start Mode

Rear Panel Description

GEN 3 / 5 kW in 2 U



GEN 10 / 15 kW in 3 U



1. Remote/Local Output Voltage Sense Connections.
2. DIP Switches select 0–5 V or 0–10 V Programming and other functions.
3. DB25 (Female) connector allows (Non-isolated) Analog Program and Monitor and other functions.
4. RS-485 OUT to other Genesys™ Power Supplies.
5. RS-232/RS-485 IN Remote Serial Programming.
6. Output Connections:
   - Rugged busbars (shown) for up to 100 V Output
   - Wire clamp connector for Outputs >100 V for 10 kW and 15 kW models
   - Rugged 2 hole busbars (shown) for up to 80 V output
   - Single hole busbars 100 V to 300 V output
   - Threaded stud terminals above 300 V output
7. Exit air assures reliable operation when zero stacked.
8. Input:
   - AC Input Connector: PHOENIX CONTACT Power Combicon PC 6/... Series with strain relief for 3.3 kW and 5 kW models
   - Input Terminals L1, L2, L3, Ground, threded studs fo 10 kW and 15 kW models
9. Optional Interfaces Position for IEEE 488.2 (GPIB), Isolated Analog Interface, LAN interface or USB interface.



Specifications Genesys™ GEN/GENH 750 W/1500 W

1.0 Model	**GEN**	**6-200**	**8-180**	**12.5-120**	**20-76**	**30-50**
1. Rated output voltage (*1)	V	6	8	12.5	20	30
2. Rated output current (*2)	A	200	180	120	76	50
3. Rated output power	W	1200	1440	1500	1520	1500
4. Efficiency at 100/200 VAC (*3)	%	77/79	78/81	81/84	83/86	83/86
1.0 Model	**GEN**	**6-100**	**8-90**	**12.5-60**	**20-38**	**30-25**
1. Rated output voltage (*1)	V	6	8	12.5	20	30
2. Rated output current (*2)	A	100	90	60	38	25
3. Rated output power	W	600	720	750	760	750
1.0 Model	**GENH**	**6-100**	**8-90**	**12.5-60**	**20-38**	**30-25**
1. Rated output voltage (*1)	V	6	8	12.5	20	30
2. Rated output current (*2)	A	100	90	60	38	25
3. Rated output power	W	600	720	750	760	750
4. Efficiency at 100/200 VAC (*3)	%	76/78	77/80	81/84	82/85	83/87
1.1 Constant Voltage Mode						
1. Max. line regulation (0.01 % of Vo + 2 mV) (*4)	mV	2.6	2.8	3.3	4	5
2. Max. load regulation (0.01 % of Vo + 2 mV) (*5)	mV	2.6	2.8	3.3	4	5
3. Ripple and noise p-p 20 MHz (*9)	mV	60	60	60	60	60
4. Ripple r.m.s 5 Hz~1 MHz (*9)	mV	8	8	8	8	8
5. Remote sense compensation/line	V	1	1	1	1	1.5
6. Temperature coefficient	PPM/°C	100 PPM/°C of rated output voltage, following 30 minutes warm up				
7. Up-prog. response time, 0~Vo Rated	ms	80 ms, N.L / F.L, resistive load				
8. Down-prog. response time full-load	ms	10	50	50	50	80
9. Down-prog. response time no-load	ms	500	600	700	800	900
10. Transient response time (*8)		Less than 1 ms for models up to and including 100 V. 2 ms for models above 100 V				
1.2 Constant Current Mode						
1. Max. line regulation (0.01 % of Io + 2 mA) (*4)	mA	12	11	8.0	5.8	4.5
2. Max. load regulation (0.02 % of Io + 5 mA) (*6)	mA	25	23	17	12.6	10
3. Ripple r.m.s 5 Hz~1 MHz (*7)	mA	200	180	120	76	63
4. Max. line regulation (0.01 % of Io + 2 mA) (*4)	mA	22	20	14	9.6	7.0
5. Max. load regulation (0.02 % of Io + 5 mA) (*6)	mA	45	41	29	20.2	15
6. Ripple r.m.s 5 Hz~1 MHz (*7)	mA	400	360	240	152	125
7. Temperature coefficient	PPM/°C	100 PPM/°C from rated output voltage, following 30 minutes warm up				
1.3 Protective Functions						
1. OCP		0~105 % Constant Current				
2. OCP Foldback		Output shut down when power supply change from CV to CC. User-selectable.				
3. OVP type		Inverter shut-down, manual reset by AC input recycle or by OUT button or by communication port.				
4. OVP trip point	V	0.5~7.5	0.5~10	1~15	1~24	2~36
5. Over Temperature Protection		User-selectable, latched or non-latched				

*1: Minimum voltage is guaranteed to maximum 0.2 % of Vo Rated.

*2: Minimum current is guaranteed to maximum 0.4 % of Io Rated.

*3: At maximum output power.

*4: 85~132 VAC or 170~265 VAC, constant load.

*5: From No-load to Full-load, constant input voltage.

*6: For load voltage change, equal to the unit voltage rating, constant input voltage.

								750 W	1500 W
40-38	**50-30**	**60-25**	**80-19**	**100-15**	**150-10**	**300-5**	**600-2.6**		●
40	50	60	80	100	150	300	600		●
38	30	25	19	15	10	5	2.6		●
1520	1500	1500	1520	1500	1500	1500	1560		●
84/88	84/88	84/88	84/88	84/88	84/88	83/87	83/87	●	●
40-19	**–**	**60-12.5**	**80-9.5**	**100-7.5**	**150-5**	**300-2.5**	**600-1.3**	●	
40	–	60	80	100	150	300	600	●	
19	–	12.5	9.5	7.5	5	2.5	1.3	●	
760	–	750	760	750	750	750	780	●	
40-19		**60-12.5**	**80-9.5**	**100-7.5**	**150-5**	**300-2.5**	**600-1.3**	●	
40		60	80	100	150	300	600	●	
19		12.5	9.5	7.5	5	2.5	1.3	●	
760		750	760	750	750	750	780	●	
83/87		84/88	84/88	84/88	84/88	83/87	83/87	●	
6	7	8	10	12	17	32	62	●	●
6	7	8	10	12	17	32	62	●	●
60	60	60	80	80	100	150	300	●	●
8	8	8	8	8	10	25	60	●	●
2	2	3	4	5	5	5	5	●	●
								●	●
			150 ms, N.L/F.L, resistive load				250	●	●
80	80	80	150	150	150	150	250	●	●
1000	1100	1100	1200	1500	2000	2500	4000	●	●
								●	●
3.9	–	3.25	2.95	2.75	2.5	2.25	2.13	●	
8.8	–	7.5	6.9	6.5	6.0	5.5	5.26	●	
48	–	38	29	23	18	13	8	●	
5.8	5	4.5	3.9	3.5	3.0	2.5	2.26		●
12.6	11	10	8.8	8.0	7.0	6.0	5.52		●
95	85	75	57	45	35	25	12		●
								●	●
								●	●
								●	●
								●	●
2~44	5~57	5~66	5~88	5~110	5~165	5~330	5~660	●	●
								●	●

Sequel ▶

*7: For 6 V models the ripple is measured at 2~6 V output voltage and full output current. For other models, the ripple is measured at 10~100 % output voltage and full output current.

*8: Time for the output voltage to recover within 0.5 % of its rated for a load change 10~90 % of rated output, Output set-point: 10~100 %.

*9: For 6 V~300 V models: measured with JEITA RC-9131 1:1 probe. For 600 V model: measured with 10:1 probe. Accuracy: Values have been calculated at Vo Rated & Io Rated.



Specifications Genesys™ GEN/GENH 750 W/1500 W

1.4 Analog Programming and Monitoring						
1. Vout Voltage Programming	0~100 %, 0~5 V or 0~10 V, user-selectable. Accuracy and linearity: ±0.5 % of rated Vout.					
2. Iout Voltage Programming	0~100 %, 0~5 V or 0~10 V, user-selectable. Accuracy and linearity: ±1 % of rated Iout.					
3. Vout Resistor Programming	0~100 %, 0~5/10 Kohm full scale, user-selectable. Accuracy and linearity: ±1 % of rated Vout.					
4. Iout Resistor Programming	0~100 %, 0~5/10 Kohm full scale, user-selectable. Accuracy and linearity: ±1.5 % of rated Iout.					
5. On/Off control (rear panel)	By electrical. Voltage: 0~0.6 V/2~15 V, or dry contact, user-selectable logic					
6. Output current monitor	0~5 V or 0~10 V, accuracy: 1 %, user-selectable					
7. Output voltage monitor	0~5 V or 0~10 V, accuracy: 1 %, user-selectable					
8. Power supply OK signal	TTL high (4~5 V) -OK, 0 V-Fail 500 ohm series resistance					
9. CV/CC indicator	CV: TTL high (4~5 V) source: 10 mA, CC: TTL low (0~0.6 V), sink current: 10 mA					
10. Enable/Disable	Dry contact. Open: off, Short: on. Max. voltage at Enable/Disable in: 6 V					
11. Local/Remote analog control	By electrical signal or Open/Short: 0~0.6 V or short: Remote, 4~5 V or open: Local					
12. Local/Remote analog control indicator	Open collector, Local: Open, Remote: On. Maximum voltage: 30 V, maximum sink current: 5 mA					
1.5 Front Panel						
1. Control functions	Vout/Iout manual adjust by separate encoders (coarse and fine adjustment selectable)					
	OVP/UVL manual adjust by Volt. Adjust encoder					
	AC on/off, Output on/off, Re-start modes (auto, safe), Foldback control (CV to CC), Go to local control					
	Address selection by Voltage (or current) adjust encoder. Number of addresses: 31					
	RS232/485 and IEEE488.2 selection by IEEE enable switch and DIP switch					
	Baud rate selection: 1200, 2400, 4800, 9600 and 19,200					
2. Display	Voltage 4 digits, accuracy: 0.5 % ±1 count					
	Current 4 digits, accuracy: 0.5 % ±1 count					
3. Indications	Voltage, Current, Alarm, Fine, Preview, Foldback, Local, Output On, Front Panel Lock					
1.6 Interface RS232 & RS485 or Optional GPIB / LAN Interface						
Model	**V**	**6**	**8**	**12.5**	**20**	**30**
1. Remote Voltage Programming (16 bit)						
Resolution (0.012 % of Vo Rated)	mV	0.72	0.96	1.50	2.40	3.60
Accuracy (0.05 % Vo Rated + 0.05 % of Vo Actual Output)	mV	6.0	8.0	12.5	20	30
2. Remote Current Programming (16 bit)						
Resolution (0.012 % of Io Rated)	mA	12	10.8	7.2	4.56	3.0
Accuracy (0.1 % of Io Rated + 0.1 % of Io Actual Output)	mA	200	180	120	76	50
Resolution (0.012 % of Io Rated)	mA	24	21.6	14.4	9.12	6.0
Accuracy (0.1 % of Io Rated + 0.1 % of Io Actual Output)	mA	400	360	240	152	100
3. Readback Voltage						
Resolution (0.012 % of Vo Rated)	mV	0.72	0.96	1.50	2.40	3.60
Accuracy (0.1 % Vo Rated + 0.1 % of Vo Actual Output)	mV	12	16	25	40	60

								750 W	1500 W
								●	●
								●	●
								●	●
								●	●
								●	●
								●	●
								●	●
								●	●
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								●	●
								●	●
								●	●
40	**50**	**60**	**80**	**100**	**150**	**300**	**600**	●	●
4.80	6	7.2	9.6	12	18	36	72	●	●
40	50	60	80	100	150	300	600	●	●
2.28	–	1.50	1.14	0.90	0.60	0.30	0.16	●	
38	–	25	19	15	10	5.0	2.6	●	
4.56	3.60	3.0	2.28	1.80	1.20	0.60	0.32		●
76	60	50	38	30	20	10	5.2		●
4.80	6.0	7.2	9.6	12	18	36	72	●	●
80	100	120	160	200	300	600	1200	●	●

Sequel ▸



Specifications Genesys™ GEN/GENH 750 W/1500 W

1.6 Interface RS232 & RS485 or Optional GPIB / LAN Interface						
Model	**V**	**6**	**8**	**12.5**	**20**	**30**
4. Readback Current						
Resolution (0.012 % of Io Rated)	mA	12	10.8	7.2	4.56	3.0
Accuracy (0.1 % of Io Rated + 0.3 % of Io Actual Output)	mA	400	360	240	152	100
Resolution (0.012 % of Io Rated)	mA	24	21.6	14.4	9.12	6
Accuracy (0.1 % of Io Rated + 0.3 % of Io Actual Output)	mA	800	720	480	304	200
5. OVP/UVL Programming						
Resolution (0.1 % of Vo Rated)	mV	6	8	12	20	30
Accuracy (1 % of Vo Rated)	mV	60	80	125	200	300

Specifications Genesys™ GEN/GENH 750 W/1500 W

2.1. Input Characteristics	
1. Input voltage/freq. (*1)	85~265 VAC continuous, 47~63 Hz, single phase
2. Power Factor	0.99 @100/200 VAC, 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 100/200 VAC	10.5 A/5 A
5. Inrush current 100/200 VAC	Less than 25 A
6. Hold-up time	More than 20 ms, 100 VAC, 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. 600 V max. to chassis ground
2.3 Environmental Conditions	
1. Operating temperature	0~50 °C, 100 % load
2. Storage temperature	–20~70 °C
3. Operating humidity	30~90 % RH (non-condensing)
4. Storage humidity	10~95 % RH (non-condensing)
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 20 G, half sine, 11 ms unit is unpacked
7. Altitude	Operating: 10000 ft (3000 m), Derat output current by 2 %/100 m above 2000 m, Non-operating: 40000 ft (12000 m)
2.4 EMC	
1. Applicable Standards:	
2. ESD	IEC1000-4-2. Air-disch. –8 kV, contact disch. –4 kV
3. Fast transients	IEC1000-4-4. 2 kV
4. Surge immunity	IEC1000-4-5. 1 kV line to line, 2 kV line to ground
5. Conducted immunity	IEC1000-4-6, 3 V
6. Radiated immunity	IEC1000-4-3, 3 V/m
7. Conducted emission	EN55022B, FCC part 15J-B,VCCI-B
8. Radiated emission	EN55022A, FCC part 15-A,VCCI-A
9. Voltage dips	EN61000-4-11
10. Conducted emission	EN55022B, FCC part 15-B, VCCI-B
11. Radiated emission	EN55022A, FCC part 15-A, VCCI-A

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

All specifications subject to change without notice.

								750 W	1500 W
40	**50**	**60**	**80**	**100**	**150**	**300**	**600**	●	●
2.28	–	1.50	1.14	0.90	0.60	0.30	0.16	●	
76	–	50	38	30	20	10	5.2	●	
4.56	3.60	3.0	2.28	1.80	1.20	0.60	0.32		●
152	120	100	76	60	40	20	10.4		●
40	50	60	80	100	150	300	600	●	●
400	500	600	800	1000	1500	3000	6000	●	●

Specifications Genesys™ GEN/GENH 750 W/1500 W Specifications

2.5 Safety	
1. Applicable standards:	**CE Mark, UL60950-1, EN60950-1 listed.** Vout ≤40 V: Output is SELV, IEEE/Isolated analog are SELV
	40 <Vout <400 V: Output is hazardous, IEEE/Isolated analog are SELV
	400 <Vout <600 V: Output is hazardous, IEEE/Isolated analog are not SELV
2. Withstand voltage	Vout <40 V models: Input-Outputs (SELV): 3.0 KVrms 1min, Input-Ground: 2.0 KVrms 1 min
	40 <Vout <600 V models: Input-Haz. Output: 2.5 KVrms 1min, Input-SELV: 3 KVrms 1 min
	Hazardous Output-SELV: 1.9 KVrms 1 min, Hazardous Output-Ground: 1.9 KVrms 1 min
	Input-Ground: 2 KVrms 1 min
3. Insulation resistance	More than 100 Mohm at 25 °C, 70 % RH, 500 VDC
2.6 Mechanical Construction GENH 750 W	
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: 214.0 mm, H: 43.6 mm, (57.0 mm Benchtop version), D: 437.5 mm (excluding connectors, encoders, handles, etc.)
3. Weight	4.5 kg (9.9 Lbs)
4. AC Input connector	IEC320 AC Inlet
5. Output connectors	6 V to 60 V models: Bus-bars (hole Ø 6.5 mm). 80 V to 600 V models: Meating plug, Phoenix P/N: GIC 2.54/4-ST-7.62
2.6 Mechanical Construction GEN 750 W/1500 W	
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: 422.8 mm, H: 43.6 mm, D: 432.8 mm (excluding connectors, encoders, handles, etc.)
3. Weight	750 W: 7 kg (15 Lbs), 1500 W: 8.5 kg (18 Lbs)
4. AC Input connector	750 W: IEC320 AC Inlet
	1500 W: Screw terminal block, Phoenix P/N: FRONT-4-H-7.62, with strain relief
5. Output connectors	6 V to 60 V models: Bus-bars (hole Ø 8.5 mm). 80 V to 600 V models: wire clamp connector, Phoenix P/N: FRONT-4-H-7.62
2.7 Reliability specs	
1. Warranty	5 years

Sequel ▸



Specifications Genesys™ 3.3 kW / Genesys™ 5 kW

1.0 Model	GEN	8-400	8-600	10-330	10-500	15-220	16-310	20-165	20-250
1. Rated output voltage (*1)	V	8	8	10	10	15	16	20	20
2. Rated output current (*2)	A	400	600	330	500	220	310	165	250
3. Rated output power	W	3200	4800	3300	5000	3300	4960	3300	5000
1.1 Constant Voltage Mode									
1. Max. line regulation (0.01 % of rated Vo + 2 mV) (*6)	mV	2.8	0.8	3	1.0	3.5	1.6	4	2
2. Max. load regulation (0.015 % of rated Vo + 5 mV) (*7)	mV	6.2	6.2	6.5	6.5	7.25	7.4	8	8
3. Ripple and noise p-p 20 MHz (*8)	mV	60	70	60	70	60	70	60	70
4. Ripple r.m.s 5 Hz～1 MHz	mV	8	10	8	10	8	10	8	10
5. Remote sense compensation/wire	V	2	2	2	2	2	2	2	2
6. Temperature coefficient	PPM/°C	100 PPM/°C of rated output voltage, following 30 minutes warm-up.							
7. Temperature stability		0.05 % of rated Vout over 8 hrs interval following 30 minutes warm-up. Constant line, load & temperature.							
8. Warm-up drift		Less than 0.05 % of rated output voltage + 2 mV over 30 minutes following power On.							
9. Up-prog. response time, 0～Vo Rated (*9)	ms	80							
10. Down-prog. response time Full-load (*9)	ms	20		100					
No-load (*10)	ms	500		600		700		800	
11. Transient response time	ms	Time for output voltage to recover within 0.5 % of its rated output for a load change 10 – 90 % of rated output current. Output set-point: 10 – 100 %, local sense. Less than 1 ms for models up to and including 100 V. 2 ms for models above 100 V.							
1.2 Constant Current Mode									
1. Max. line regulation (0.01 % of rated Io + 2 mA) (*6)	mA	42	300	35	250	24	155	18.5	125
2. Max. load regulation (0.02 % of rated Io + 5 mA) (*11)	mA	85	600	71	500	49	310	38	250
3. Ripple r.m.s 5 Hz～1 MHz (*12)	mA	1300	1950	1200	1800	880	1400	6	1000
4. Load regulation thermal drift		Less than 0.1 % of rated output current over 30 minutes following load change.							
5. Temperature coefficient	PPM/°C	200 PPM/°C from rated output current, following 30 minutes warm-up.							
6. Temperature stability		0.05 % of rated Iout over 8 hrs interval following 30 minutes warm-up. Constant line, load & temperature.							
7. Warm-up drift		8～40 V model: Less than ±0.5 % rated output current over 30 minutes following power On. 60～600 V model: Less than ±0.25 % of rated output current over 30 minutes following power On.							

*1: Minimum voltage is guaranteed to maximum 0.2 % of rated output voltage.

*2: Minimum current is guaranteed to maximum 0.4 % of rated output current.

*3: For cases where conformance to various safety standards (UL, IEC, etc) is required, to be described as 190–240 VAC (50/60 Hz) for single phase and 3-Phase 208 V models, and 380～415 VAC (50/60 Hz) for 3-Phase 400 V models.

*4: Single-Phase and 3-Phase 208 V models: At 208 VAC input voltage, 3-Phase 400 V: At 380 VAC input voltage. With rated output power.

*5: Not including EMI filter inrush current, less than 0.2 ms.

*6: Single-Phase and 3-Phase 208 V models: 170～265 VAC, constant load. 3-Phase 400 V models: 342～460 VAC, constant load.

*7: From No-Load to Full-Load, constant input voltage. Maximum drop in Remote Sense.

30-110	30-170	40-85	40-125	60-55	60-85	80-42	80-65	100-33	100-50	150-22	150-34	300-11	300-17	600-5.5	600-8.5
30	30	40	40	60	60	80	80	100	100	150	150	300	300	600	600
110	170	85	125	55	85	42	65	33	50	22	34	11	17	5.5	8.5
3300	5100	3400	5000	3300	5100	3360	5200	3300	5000	3300	5100	3300	5100	3300	5100
5	3	6	4	8	6	10	8	12	10	17	15	32	30	62	60
9.5	9.5	11	11	14	14	17	17	20	20	27.5	27.5	50	50	95	95
60	70	60	70	60	70	80	80	100	100	100	120	300	200	500	500
8	10	8	10	8	10	25	12	25	15	25	25	100	35	120	120
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
80				150										250	
160						300								500	
900		1000		1100		1200		1500		2000		3500		4000	
13	85	10.5	62.5	7.5	42.5	6.2	32.5	5.3	25	4.2	17	3.1	8.5	2.6	4.25
27	170	22	125	16	58	13.4	65	11.6	50	9.4	34	7.2	17	6.1	8.5
300	460	200	300	100	150	80	120	70	100	60	90	20	30	10	15

Sequel ▸

*8: For 8 V~300 V models: Measured with JEITA RC-9131A (1:1) probe. For 600 V model: Measured with 10:1 probe.

*9: From 10 % to 90 % or 90 % to 10 % of Rated Output Voltage, with rated, resistive load.

*10: From 90 % to 10 % of Rated Output Voltage.

*11: For load voltage change, equal to the unit voltage rating, constant input voltage.

*12: For 8 V~16 V models the ripple is measured from 2 V to rated output voltage and rated output current. For other models, the ripple is measured at 10~100 % of rated output voltage and rated output current.



Specifications Genesys™ 3.3 kW / Genesys™ 5 kW

1.3 Protective Functions	GEN	8-400	8-600	10-330	10-500	15-220	16-310	20-165	20-250	30-110
1. OCP		0~105 % Constant current								
2. OCP foldback		Output shut down when power supply change from CV to CC. User-selectable.								
3. OVP type		Inverter shut-down, manual reset by AC input recycle or by OUT button or by communication port command.								
4. OVP trip point		0.5~10 V		0.5~12 V		1~19 V		1~24 V		2~36 V
5. Output under voltage limit		Preset by front panel or communication port. Prevents from adjusting Vout below limit.								
6. Over temperature protection		User-selectable, latched or non-latched.								
1.4 Analog programming and monitoring										
1. Vout Voltage Programming		0~100 %, 0~5 V or 0~10 V, user-selectable. Accuracy and linearity: ±0.5 % of rated Vout.								
2. Iout Voltage Programming (*13)		0~100 %, 0~5 V or 0~10 V, user-selectable. Accuracy and linearity: ±1 % of rated Iout.								
3. Vout Resistor Programming		0~100 %, 0~5/10 Kohm full scale, user-selectable. Accuracy and linearity: ±1 % of rated Vout.								
4. Iout Resistor Programming (*13)		0~100 %, 0~5/10 Kohm full scale, user-selectable. Accuracy and linearity: ±1.5 % of rated Iout.								
5. On/Off control (rear panel)		By electrical. Voltage: 0~0.6 V/2~15 V, or dry contact, user-selectable logic.								
6. Output Current monitor (*13)		0~5 V or 0~10 V, Accuracy: ±1 %, user-selectable.								
7. Output Voltage monitor		0~5 V or 0~10 V, Accuracy: ±1 %, user-selectable.								
8. Power Supply OK signal		TTL high (4~5 V) -OK, 0 V-Fail 500 ohm series resistance.								
9. CV/CC Indicator		CV: TTL high (4~5 V) source: 10 mA, CC: TTL low (0~0.6 V), sink current: 10 mA.								
10. Enable/Disable		Dry contact. Open: off, Short: on. Max. voltage at Enable/Disable in: 6 V.								
11. Local/Remote analog control		By electrical signal or Open/Short: 0~0.6 V or short: Remote, 4~5 V or open: Local.								
12. Local/Remote analog control Indicator		Open collector, Local: Off, Remote: On. Maximum voltage: 30 V, maximum sink current: 10 mA.								
1.5 Front Panel										
1. Control functions		Vout/Iout manual adjust by separate encoders (coarse and fine adjustment selectable).								
		OVP/UVL manual adjust by Volt. Adjust encoder.								
		On/Off, Output on/off, Re-start modes (auto, safe), Foldback control (CV to CC), Go to local control.								
		Address selection by Voltage (or current) adjust encoder. Number of addresses: 31.								
		Re-start modes (automatic restart, safe mode).								
		Baud rate selection: 1200, 2400, 4800, 9600 and 19,200.								
2. Display		Voltage: 4 digits, Accuracy: 0.5 % of rated output voltage ±1 count.								
		Current: 4 digits, Accuracy: 0.5 % of rated output current ±1 count.								
3. Indications		Voltage, Current, Alarm, Fine, Preview, Foldback, Local, Output On, Front Panel Lock, CVCC.								
1.6 Interface RS 232 & RS 485 or Optional GPIB / LAN Interface										
Model	**V**	**8**		**10**		**15**	**16**	**20**		**30**
1. Remote Voltage Programming (16 bit)										
Resolution (0.012 % of Vo Rated)	mV	0.96		1.2		1.8	1.92	2.4		3.6
Accuracy (0.05 % Vo Rated + 0.05 % of Vo Actual Output)	mV	8		10		15		20		30
2. Remote Current Programming (16 bit)										
Resolution (0.012 % of Io Rated)	mA	48	72	39.6	60	26.4	37.2	19.8	30	13.2
Accuracy (0.2 % of Io Rated +0.1 % of Io Actual Output) (*13)	mA	1200	2400	990	2000	660	1240	495	1000	330

*13: The Constant Current programming readback and monitoring accuracy does not include the warm-up and Load regulation thermal drift.

30-170	40-85	40-125	60-55	60-85	80-42	80-65	100-33	100-50	150-22	150-34	300-11	300-17	600-5.5	600-8.5
	2~44 V		5~66 V		5~88 V		5~110 V		5~165 V		5~330 V		5~660 V	
	40		**60**		**80**		**100**		**150**		**300**		**600**	
	4.8		7.2		9.6		12		18		36		72	
	40		60		80		100		150		300		600	
20.4	10.2	15	6.6	10.2	5.0	7.8	4.0	6.0	2.6	4.08	1.3	2.04	0.7	1.02
680	255	500	165	340	126	260	99	200	66	136	33	68	16.5	34

Sequel ▶



Specifications Genesys™ 3.3 kW / Genesys™ 5 kW

Sequel to 1.6 Interface RS 232 & RS 485 or Optional GPIB / LAN Interface										
Model	**V**	**8**		**10**		**15**	16	**20**		
3. Readback Voltage										
Resolution (0.012 % of Vo Rated)	mV	0.96		1.2		1.8	1.92	2.4		
Accuracy (0.1 % Vo Rated + 0.1 % of Vo Actual Output)	mV	16		20	15	30	24	40	30	
4. Readback Current										
Resolution (0.012 % of Io Rated)	mA	48	72	39.6	60	26.4	37.2	19.8	30	
Accuracy (0.3 % of Io Rated + 0.1 % of Io Actual Output) (*13)	mA	1600	2400	1320	2000	880	1240	660	1000	
5. OVP/UVL Programming										
Resolution (0.1 % of Vo Rated)	mV	8		10		15	16	20		
Accuracy (1 % of Vo Rated)	mV	80		100		150	160	200		

*13: The Constant Current programming readback and monitoring accuracy does not include the warm-up and Load regulation thermal drift.

Specifications Genesys™ 3.3 kW / Genesys™ 5 kW

2.1 Input Characteristics		**GEN**	**8-400**	8-600	**10-330**	10-500	**15-220**	16-310	**20-165**	20-250	**30-110**
1. Input voltage/freq. (*1)		VAC	Single Phase, 230 V models: 170~265 VAC, 47~63 Hz (only available for 3.3 kW models)								
2. Maximum Input current at 100 % load	Single Phase, 230 V models	A	24	–	24	–	24	–	24	–	24
	3-Phase, 208 V models	A	15	21.4	15	22.1	15	21.9	15	21.5	15
	3-Phase, 400 V models	A	7.5	10.7	7.5	11.0	7.5	10.9	7.5	10.7	7.5
3. Power Factor (Typ)		W	Single Phase models: 0.99@230 VAC; 3-Phase models: 0.94@208/380/400/415 VAC (at 100 % load)								
4. Inrush peak current (*3)		A	Single-Phase models: Less than 50 A (only for 3.3 kW models) 3-Phase 208 V models: Less than 50 A 3-Phase 400 V models: Less than 20 A								
5. Efficiency at 208 V and 400 V (*2)		%	82	82	84	84	84	84	86	86	86
6. Efficiency at 170 V and 342 V		%	–	81	–	82	–	82	–	84	–
7. Hold up time	GEN 3.3 kW	ms	10 ms for Single-Phase and 3-Phase 208 V models, 6 ms for 3-Phase 400 V models. Rated output power.								
	GEN 5 kW		5 ms typical								
8. Phase inbalance		%	≤5 %								
9. Leakage current			Less than 3 mA								
2.2 Power Supply Configuration											
1. Parallel Operation			Up to 4 identical units in master/slave mode								
2. Series Operation			Up to 2 identical units with external diodes. 600 V max. to chassis ground								
2.3 Environmental Conditions											
1. Operating temperature			0~50 °C, 100 % load								
2. Storage temperature			–30~85 °C								
3. Operating humidity			20~90 % RH (non-condensing)								
4. Storage humidity			10~95 % RH (non-condensing)								
5. Vibration			MIL-810F, method 514.5. The EUT is fixed to the vibrating surface								
6. Shock			Less than 20 G, half sine, 11 ms. Unit is unpacked								
7. Altitude			Operating: 10000 ft (3000 m), Derate output current by 2 %/100 m above 2000 m, Alternatively, derate maximum ambient temperature by 1 °C/100 m above 2000 m. Non-operating: 40000 ft (12000 m).								
8. RoHS Compliance			Complies with the requirements of RoHS directive.								

*1: For cases where conformance to various safety standards (UL, IEC, etc.) is required, to be described as 190–240 VAC (50/60 Hz) for single phase and 3-Phase 208 V models, and 380~415 VAC (50/60 Hz) for 3-Phase 400 V models.

30		40		60		80		100		150		300		600	
3.6		4.8		7.2		9.6		12		18		36		72	
60	45	80	60	120	90	160	120	200	150	300	225	600	450	1200	900
13.2	20.4	10.2	15	6.6	10.2	5.0	7.8	4.0	6.0	2.6	4.08	1.3	2.04	0.7	1.02
440	680	340	500	220	340	168	260	132	200	88	136	44	68	22	34
30		40		60		80		100		150		300		600	
300		400		600		800		1000		500		3000		6000	

30-170	40-85	40-125	60-55	60-85	80-42	80-65	100-33	100-50	150-22	150-34	300-11	300-17	600-5.5	600-8.5
3-Phase 208/230 V models: 170~265 VAC, 47~63 Hz 3-Phase 400 V models: 342~460 Vac, 47~63 Hz														
–	24	–	23	–	23	–	23	–	23	–	23	–	23	–
22.0	15	21.0	14.5	21.5	14.5	22.1	14.5	21.0	14.5	21.2	14.5	21.5	14.5	21.5
10.9	7.5	10.5	7	10.7	7	11.0	7	10.5	7	10.5	7	10.7	7	10.7
86	88	88	88	88	88	88	88	88	88	88	88	88	87	87
84	–	86	–	86	–	86	–	86	–	87	–	86	–	86

Sequel ▶

*2: Single-Phase and 3-Phase 208 V models: At 208 VAC input voltage, 3-Phase 400 V: At 380 VAC input voltage. With rated output power.

*3: Not including EMI filter inrush current, less than 0.2 ms.



Specifications Genesys™ 3.3 kW / **Genesys™ 5 kW**

2.4 EMC	
1. Applicable Standards	
2. ESD	IEC1000-4-2. Air-disch. –8 kV, contact disch. –4 kV
3. Fast transients	IEC1000-4-4. 2 kV
4. Surge immunity	IEC1000-4-5. 1 kV line to line, 2 kV line to ground
5. Conducted immunity	IEC1000-4-6, 3 V
6. Radiated immunity	IEC1000-4-3, 3 V/m
7. Magnetic field immunity	EN61000-4-8, 1 A/m
8. Voltage dips	EN61000-4-11
9. Conducted emission	EN55022A, FCC part 15-A, VCCI-A
10. Radiated emission	EN55022A, FCC part 15-A, VCCI-A
2.5 Safety	
1. Applicable Standards	**CE Mark, UL60950-1, EN60950-1 listed.** Vout ≤40 V: Output is SELV, IEEE/Isolated analog are SELV.
	40 <Vout ≤400 V: Output is hazardous, IEEE/Isolated analog are SELV.
	400 <Vout ≤600 V: Output is hazardous, IEEE/Isolated analog are not SELV.
2. Withstand Voltage	Vout ≤40 V models: Input-Outputs (SELV): 4242 VDC 1 min, Input-Ground: 2828 VDC 1 min.
	40 <Vout ≤100 V models: Input-Haz. Output: 2600 VDC 1 min, Input-SELV: 4242 VDC 1 min.
	Hazardous Output.-SELV: 1900 VDC 1min, Hazardous Output-Ground: 1200 VDC 1 min. Input-Ground: 2828 VDC 1 min.
	100 <Vout ≤600 V models: Input-Haz. Output: 4000 VDC 1 min, Input-SELV: 4242 VDC 1 min.
	Hazardous Output.-SELV: 3550 VDC 1 min. Hazardous Output-Ground: 2670 VDC 1 min. Input-Ground: 2828 VDC 1 min.
3. Insulation Resistance	More than 100 Mohm 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 (W x H x D)	W: 423 mm, H: 88 mm, D: 442.5 mm (excluding connectors, encoders, handles, etc.)
3. Weight	13 kg
4. AC Input connector (with Protective Cover)	Single Phase, 230 V models, Power Combicon PC 6-16/3-GF-10, 16 series, with Strain relief.
	3-Phase, 208 V & 400 V models, Power Combicon PC 6-16/4-GF-10, 16 series, with Strain relief.
5. Output connectors	8 V to 100 V models: Bus-bars (hole Ø 10.5 mm). 150 V to 600 V models: wire clamp connector, Phoenix P/N: FRONT-4-H-7.62
2.7 Reliability Specs	
1. Warranty	5 years

All specifications subject to change without notice.

Genesys™ Power Parallel and Series Configurations

Parallel operation – Master/Slave:

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

In Advanced Parallel Master/Slave Mode, total current is programmed and reported by the Master, up to four supplies act as one.

Series operation

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

Remote Programming via RS-232 & RS-485 Interface

Standard Serial Interface allows daisy-chain control of up to 31 power supplies on the same communication bus with built-in RS-232 & RS-485 Interface.

Programming Options (Factory installed)

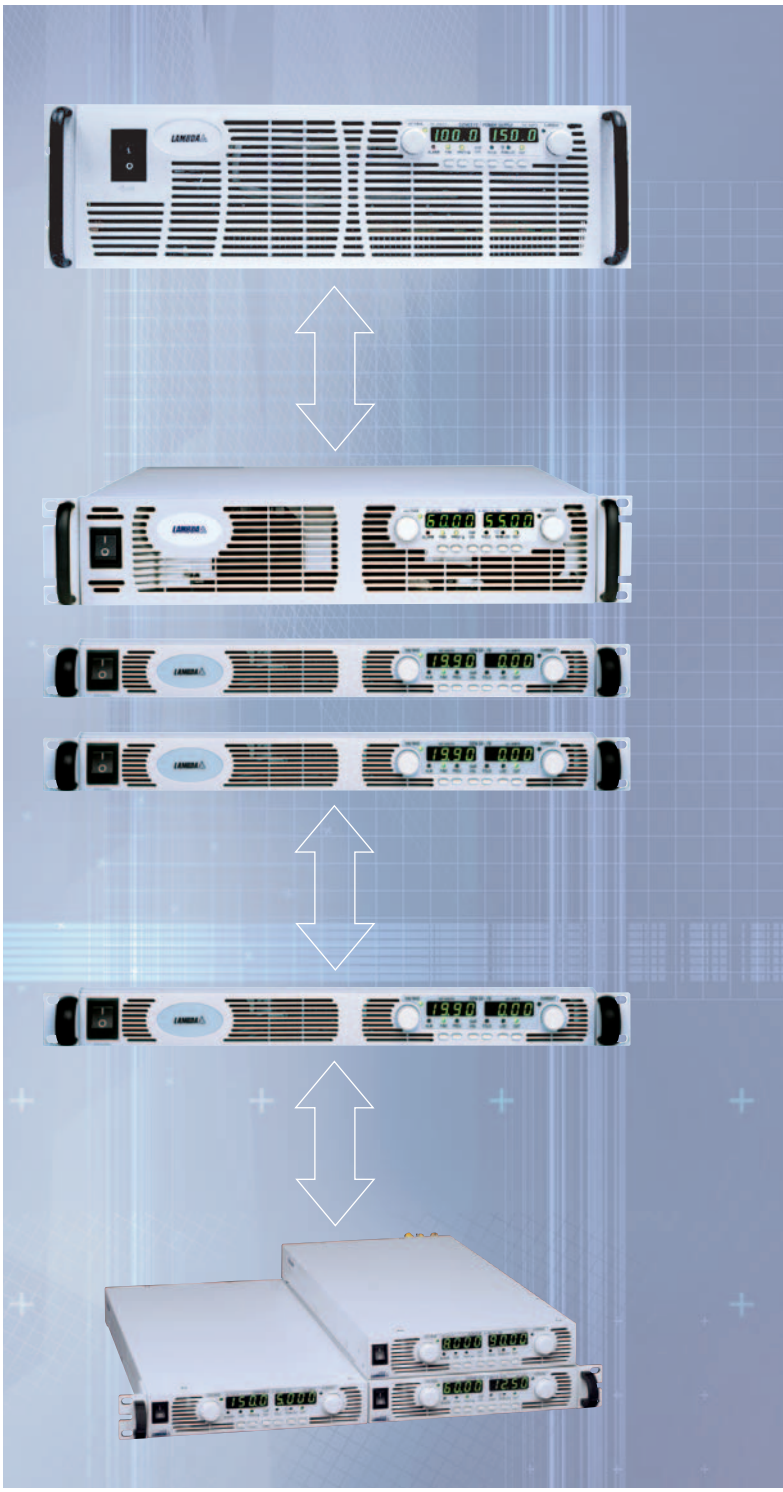
Digital Programming via IEEE Interface **P/N: IEEE**

- IEEE 488.2 SCPI Compliant
- Program Voltage
- Program Current
- Measure Voltage
- Measure Current
- Over Voltage setting and shutdown
- Current Foldback shutdown
- Error and Status Messages
- **NEW: Multi-Drop**
  - Allows IEEE Master to control up to 31 slaves over RS-485 daisy-chain
  - Only the Master needs be equipped with IEEE Interface

Isolated Analog Programming

Four Channels to Program and Monitor Voltage and Current. Isolation allows operation with floating references in harsh electrical environments. Choose between programming with Voltage or Current. Connection via removable terminal block: Phoenix MC1,5/8-ST-3.81.

- Voltage Programming, user-selectable 0–5 V or 0–10 V signal. **P/N: IS510**
  - Power supply Voltage and Current Programming Accuracy ±1 %
  - Power supply Voltage and Current Monitoring Accuracy ±1.5 %
- Current Programming with 4-20 mA signal. **P/N: IS420**
  - Power supply Voltage and Current Programming Accuracy ±1 %
  - Power supply Voltage and Current Monitoring Accuracy ±1.5 %



LAN Interface

- Meets all LXI-C Requirements
- Address Viewable on Front Panel
- Fixed and Dynamic Addressing
- Compatible with most standard Networks

LXI Compliant to Class C

- VISA & SCPI Compatible **P/N: LAN**
- LAN Fault Indicators
- Auto-detects LAN Cross-over Cable
- Fast Startup



Specifications Genesys™ 10 kW / 15 kW

1.0 Model	**GEN**	**7.5-1000**	**10-1000**	**12.5-800**	**20-500**	**25-400**	**30-333**	**40-250**	**50-200**
1. Rated output voltage	V	7.5	10	12.5	20	25	30	40	50
2. Rated output current	A	1000	1000	800	500	400	333	250	200
3. Rated output power	kW	7.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0
4. Efficiency (min) at low line, 100 % Rated Load	%	77				83			
1.0 Model									
1. Rated output voltage	V	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2. Rated output current	A								
3. Rated output power	kW								
4. Efficiency (min) at low line, 100 % Rated Load	%								
	Contact factory for other models								
1.1 Constant Voltage Mode									
1. Max. line regulation (0.1% Vo Max. = <30 V; 0.01 % >30 V)	mV	7.5	10	12.5	20	25	30	4	5
2. Max. load regulation (0.1 % Vo Max. = <30 V; 0.02 % >30 V)	mV	7.5	10	12.5	20	25	30	8	10
3. Ripple r.m.s 5 Hz~1 MHz c.v (*1)	mV	20	20	20	20	20	20	20	20
4. Output noise p-p (20 MHz) c.v (*1)	mV	60	60	60	60	60	60	60	75
5. Remote sense compensation/wire	V	1	1	1	1	1	1.5	2	3
6. Temp. drift c.v	–	±0.05 % of Vo Rated Over 8 hours, after 30 minute warm up, constant Line, Load & Temperature							
7. Stability c.v	PPM/C	200 (0.02 % Vo Rated) / Degree C							
8. Up-prog. response time, 0~Vo max, full-load	ms	100	100	100	100	100	100	100	100
9. Up-prog. response time, 0~Vo max, no load	ms	50	50	50	50	50	50	50	50
10. Transient response time (cv mode) (*2)	ms	less than 3							
1.2 Constant Current Mode									
1. Max. line regulation (0.1 % Io Max. = >333 A; 0.05 % <333 A)	mA	1000	1000	800	500	400	333	125	100
2. Max. load regulation (0.1 % Io Max. = >333 A; 0.075 % <333 A)	mA	1000	1000	800	500	400	333	188	150
1. Max. line regulation (0.1 % Io Max. = >333 A; 0.05 % <333 A)	mA								
2. Max. load regulation (0.1 % Io Max. = >333 A; 0.075 % <333 A)	mA								
3. Ripple r.m.s 5 Hz~1 MHz c.c	mA	5100	5100	2600	2600	1700	1700	100	80
3. Ripple r.m.s 5 Hz~1 MHz c.c	mA								
4. Temp. drift c.c	–	±0.05 % of Io Rated Over 8 hours, after 30 minute warm up, constant Line, Load & Temperature							
5. Stability c.c	PPM/C	300(0.03 % Full Scale) / Degree C							

*1: Ripple and Noise at Full Rated Voltage & Load at 25 °C, Nominal Line. Per EIJ R9002A

*2. Time for the rated output voltage to recover within 2 % for a load change of 50~100 % or 100~50 % of rated output.

											10 kW	15 kW
60-167	**80-125**	**100-100**	**125-80**	**150-66**	**200-50**	**250-40**	**300-33**	**400-25**	**500-20**	**600-17**		
60	80	100	125	150	200	250	300	400	500	600	●	
167	125	100	80	66	50	40	33	25	20	17	●	
10.0	10.0	10.0	10.0	9.9	10.0	10.0	9.9	10.0	10.0	10.2	●	
					83						●	
60-250	**80-187.5**	**100-150**	**125-120**	**150-100**	**200-75**	**250-60**	**300-50**	**400-37.5**	**500-30**	**600-25**		
60	80	100	125	150	200	250	300	400	500	600		●
250	187.5	150	120	100	75	60	50	37.5	30	25		●
15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		
88						88						●
Contact factory for other models												
6	8	10	12.5	15	20	25	30	40	50	60	●	●
12	16	20	25	30	40	50	60	80	100	120	●	●
20	25	25	25	25	35	35	60	60	60	60	●	●
75	100	100	125	150	175	200	200	300	350	350	●	●
3	4	5	5	5	5	5	5	5	5	5	●	●
±0.05 % of Vo Rated Over 8 hours, after 30 minute warm up, constant Line, Load & Temperature											●	●
200 (0.02 % Vo Rated) / Degree C											●	●
100	100	100	100	100	100	100	100	100	100	100	●	●
50	50	50	50	50	50	50	50	50	50	50	●	●
less than 3											●	●
83.5	62.5	50	40	33	25	20	17	13	10	9	●	
125	94	75	60	50	38	30	25	19	15	13	●	
125	94	75	60	50	38	30	25	19	15	13		●
188	141	113	90	75	56	45	38	28	23	19		●
67	50	40	32	26	20	16	13	10	8	7	●	
100	100	100	50	50	20	20	20	10	10	10		●
±0.05 % of Io Rated Over 8 hours, after 30 minute warm up, constant Line, Load & Temperature											●	●
300(0.03 % Full Scale) / Degree C											●	●

Sequel ▸



Specifications Genesys™ 10 kW / 15 kW

1.3 Protective Functions	GEN	7.5-1000	10-1000	12.5-800	20-500	25-400	30-333	40-250	50-200
1. OCP	%	0~100							
2. OCP type	–	Constant current							
3. Foldback protection	–	Output shut down, manual reset by front panel OUT button							
4. Foldback response time	s	Less than 1							
5. OVP type	–	Inverter shut-down, manual reset by On/Off recycle or by OUT button							
6. OVP programming accuracy	%	5 % Full Scale							
7. OVP trip point	V	0.05 to (1.02 – 1.05) x Rated Output Voltage							
8. OVP response time	ms	Less than 10 ms for Output to begin to drop							
9. Max. OVP reset time	s	7 from Turn On							
10. Over temperature protection	–	Shut down if internal temperature exceeds safe operating levels (Latched in Safe Mode / Unlatched in Auto Mode)							
11. Phase Loss Protection	–	Yes							

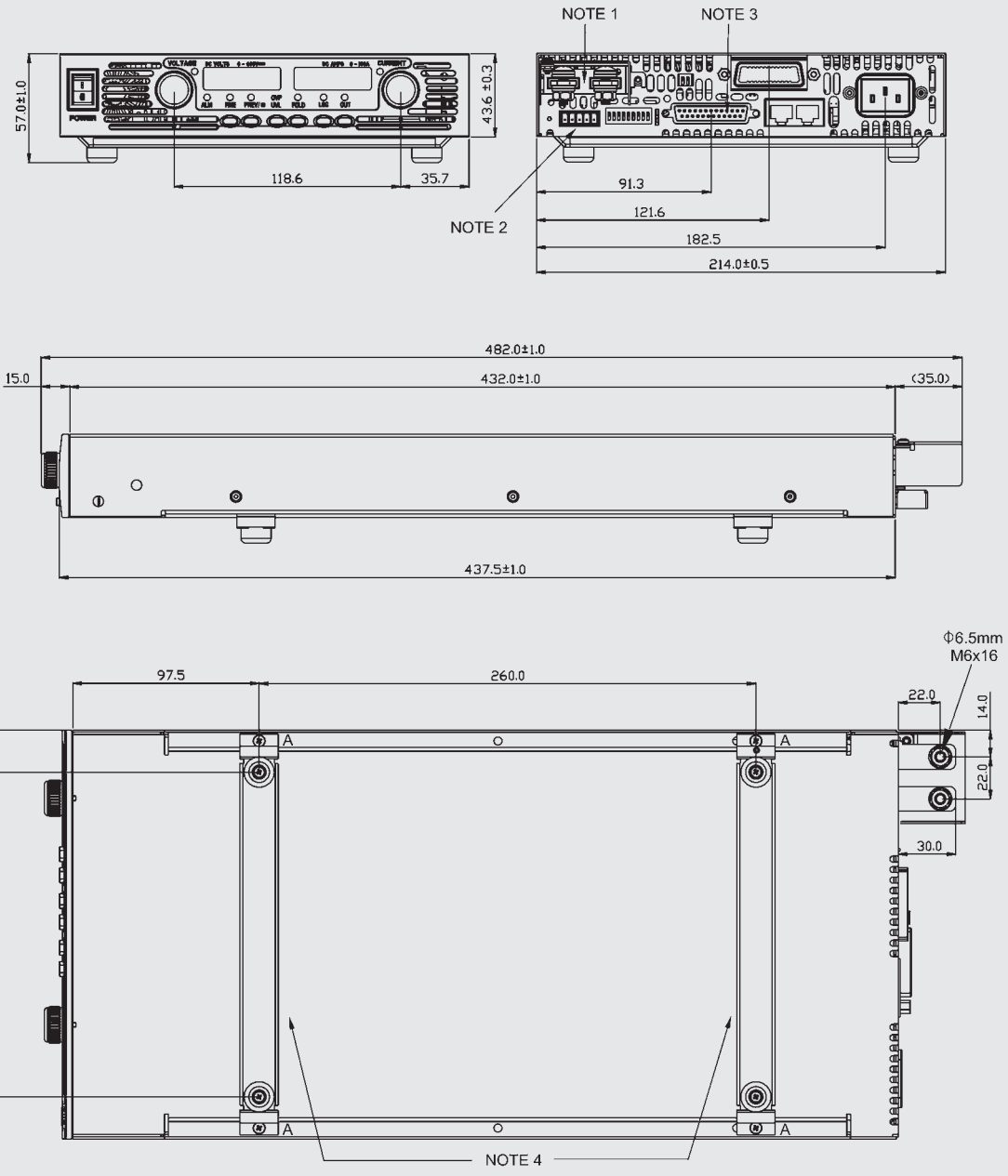
1.4 Remote Analog Controls & Signals	
1. Vout voltage programming	0~100 %, 0~5 V or 0~10 V, user selectable. Accuracy & Linearity ±1 % of Rated Vo.
2. Iout voltage programming	0~100 %, 0~5 V or 0~10 V, user selectable. Accuracy & Linearity ±1 % of Rated Io.
3. Vout resistor programming	0~100 %, 0~5/10 kohm full scale, user selectable. Accuracy & Linearity ±1 % of Rated Vo.
4. Iout resistor programming	0~100 %, 0~5/10 kohm full scale, user selectable. Accuracy & Linearity ±1 % of Rated Io.
5. On/Off control (rear panel)	By Voltage: 0.6 V = Disable, 2 – 15 V = enable (default) or dry contact, user selectable logic
6. Output current monitor	0~5 V or 0~10 V, accuracy: 1 %, user selectable
7. Output voltage monitor	0~5 V or 0~10 V, accuracy: 1 %, user selectable
8. Power supply OK signal	Yes. TTL high-OK, 0V (500 ohm impedance)-Fail
9. CV/CC signal	CV: TTL high (4~5 V) source: 10 mA, CC: TTL low (0~0.4 V): 10 mA
10. Enable/Disable	Dry contact. Open: Off, Short: On. Max. voltage at Enable / Disable Contacts 6 V
11. Remote/Local selection	Selects Remote or Local operation by Voltage: 0~0.6 V / 2~15 V, <0.6 V = Local 2 – 15 V = Remote
12. Remote/Local signal	Signals operating mode in use

1.5 Front Panel	
1. Control functions	Vout/Iout manual adjust by separate encoders, Fine and Coarse selectable.
	OVP/UVL manual adjust by Voltage Adjust encoder, Front Panel Lock/Unlock
	Address selection by Voltage Adjust encoder. No of addresses:31
	AC On/Off, Output On/Off, Restart Modes (Auto/Safe), Foldback Control (CV to CC), Go to Local
	RS232/485 and IEEE488.2 selection by IEEE enable switch and DIP switch
	Baud rate selection by Current adjust encoder
	Parallel Master Slave: Hx, where x = Slaves 0 up to four
2. Display	Vout: 4 Digits, Accuracy: 0.5 % ±1 Count
	Iout: 4 Digits, Accuracy: 0.5 % ±1 Count
	Voltmeter is user selectable to read either local voltage (at power supply) or remote voltage (at the load)
3. Indications	ADDR., OVP/UVL, V/A, FOLD, REM./LOCAL, OUT ON/OFF, LFP/UFP, CC/CV: GREEN LED's. ALRM (OVP, OTP, FOLD, AC FAIL): RED LED

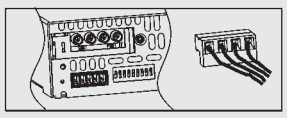
1.6 Digital Programming & Readback	
1. Vout programming accuracy	±0.5 % of rated output voltage
2. Iout programming accuracy	±0.5 % of rated output current for units with Io <187.5; ±0.7 % of rated output current for Io ≤187.5
3. Vout programming resolution	0.02 % of full scale
4. Iout programming resolution	0.04 % of full scale
5. Vout readback accuracy	0.1 % + 0.2 % of rated output voltage
6. Iout readback accuracy	0.1 % + 0.4 % of rated output current
7. Vout readback resolution	0.02 % of full scale
8. Iout readback resolution	0.02 % of full scale
9. OV Response time	20 ms maximum between output V exceeding IEEE Limit and supply inhibit turning on
10. Other Functions	Set Over-Voltage Limit, Set Local/Remote

60-167	80-125	100-100	125-80	150-66	200-50	250-40	300-33	400-25	500-20	600-17	10 kW	15 kW
0~100											●	●
Constant current											●	●
Output shut down, manual reset by front panel OUT button											●	●
Less than 1											●	●
Inverter shut-down, manual reset by On/Off recycle or by OUT button											●	●
5 % Full Scale											●	●
0.05 to (1.02 – 1.05) x Rated Output Voltage											●	●
Less than 10 ms for Output to begin to drop											●	●
7 from Turn On											●	●
Shut down if internal temperature exceeds safe operating levels (Latched in Safe Mode / Unlatched in Auto Mode)											●	●
Yes											●	●
0~100 %, 0~5 V or 0~10 V, user selectable. Accuracy & Linearity ±1 % of Rated Vo.											●	●
0~100 %, 0~5 V or 0~10 V, user selectable. Accuracy & Linearity ±1 % of Rated Io.											●	●
0~100 %, 0~5/10 kohm full scale, user selectable. Accuracy & Linearity ±1 % of Rated Vo.											●	●
0~100 %, 0~5/10 kohm full scale, user selectable. Accuracy & Linearity ±1 % of Rated Io.											●	●
By Voltage: 0.6 V = Disable, 2 – 15 V = enable (default) or dry contact, user selectable logic											●	●
0~5 V or 0~10 V, accuracy: 1 %, user selectable											●	●
0~5 V or 0~10 V, accuracy: 1 %, user selectable											●	●
Yes. TTL high-OK, 0 V (500 ohm impedance)-Fail											●	●
CV: TTL high (4~5 V) source: 10 mA, CC: TTL low (0~0.4 V): 10 mA											●	●
Dry contact. Open: Off, Short: On. Max. voltage at Enable / Disable Contacts 6 V											●	●
Selects Remote or Local operation by Voltage: 0~0.6 V / 2~15 V, <0.6 V = Local 2 – 15 V = Remote											●	●
Signals operating mode in use											●	●
Vout/Iout manual adjust by separate encoders, Fine and Coarse selectable.											●	●
OVP/UVL manual adjust by Voltage Adjust encoder, Front Panel Lock/Unlock											●	●
Address selection by Voltage Adjust encoder. No of addresses: 31											●	●
AC On/Off, Output On/Off, Restart Modes (Auto/Safe), Foldback Control (CV to CC), Go to Local											●	●
RS232/485 and IEEE488.2 selection by IEEE enable switch and DIP switch											●	●
Baud rate selection by Current adjust encoder											●	●
Parallel Master Slave: Hx, where x = Slaves 0 up to four											●	●
Vout: 4 Digits, Accuracy: 0.5 % ±1 Count											●	●
Iout: 4 Digits, Accuracy: 0.5 % ±1 Count											●	●
Voltmeter is user selectable to read either local voltage (at power supply) or remote voltage (at the load)											●	●
ADDR., OVP/UVL, V/A, FOLD, REM./LOCAL, OUT ON/OFF, LFP/UFP, CC/CV: GREEN LED's. ALRM (OVP, OTP, FOLD, AC FAIL): RED LED											●	●
±0.5 % of rated output voltage											●	●
±0.5 % of rated output current for units with Io <187.5; ±0.7 % of rated output current for Io ≤187.5											●	●
0.02 % of full scale											●	●
0.04 % of full scale											●	●
0.1 % + 0.2 % of rated output voltage											●	●
0.1 % + 0.4 % of rated output current											●	●
0.02 % of full scale											●	●
0.02 % of full scale											●	●
20 ms maximum between output V exceeding IEEE Limit and supply inhibit turning on											●	●
Set Over-Voltage Limit, Set Local/Remote											●	●

Outline Drawings Genesys™ GENH 750 W Units

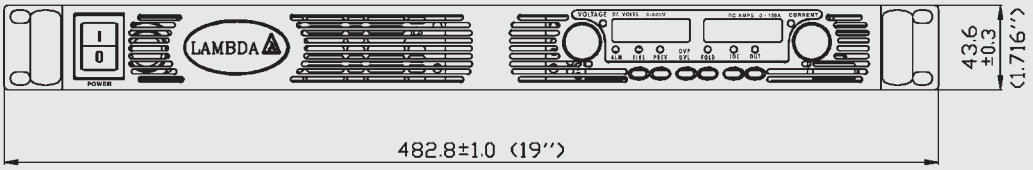


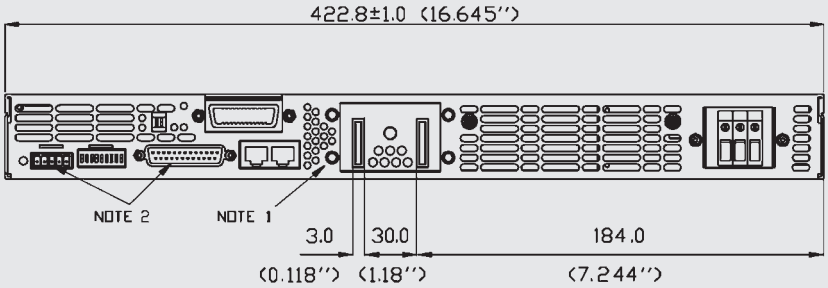
NOTE 1

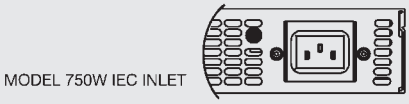


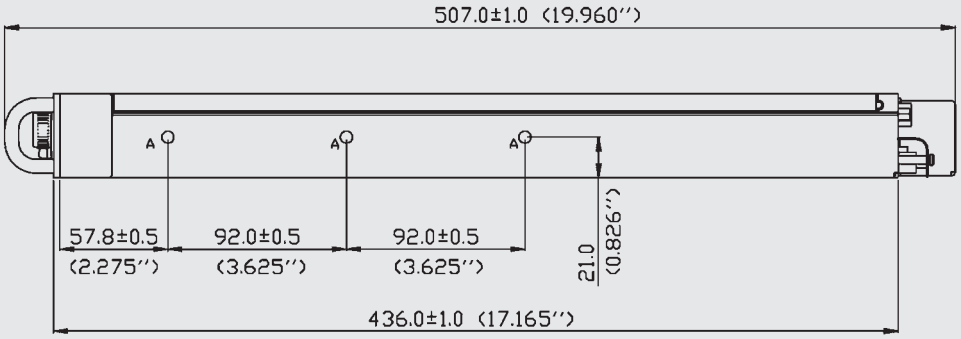
1. Bus-bars 6 V to 60 V models
   Connector 80 V to 600 V model
   Header Phoenix P/N: GIC 2.5/4-G-7.62
   Mating plug Phoenix P/N: GIC 2.5/4-ST-7.62
2. Mating plug Phoenix P/N: MC1.5/5-ST-3.81
3. Mating plug AMPP/N: 745211-2
   Mating plugs supplied with power supply.
4. Mounting benchtop assembly x 2 (removable)
   Screws: 4 x M 3 x 8 marked “A”.

Outline Drawings Genesys™ 750 W/1500 W Units



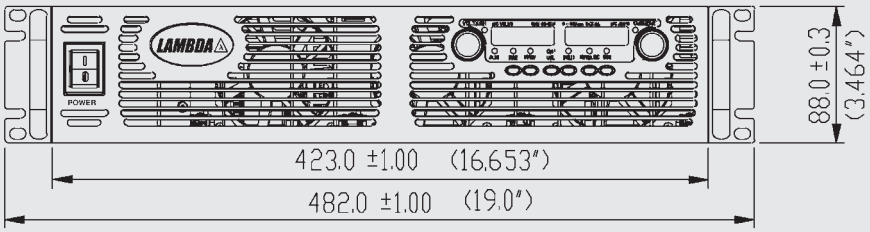


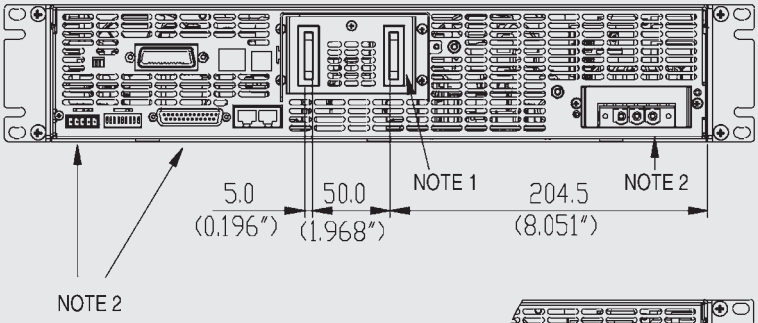


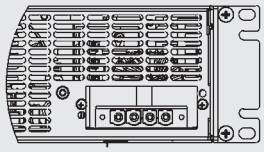


1. Bus bars for 6 V to 60 V models (shown)
   Wire clamp connector for 80 V to 600 V models
2. Plug connectors included with the power supply
3. Chassis slides mounting holes #10-32 marked "A"
   GENERAL DEVICES P/N: C-300-S-116 or equivalent

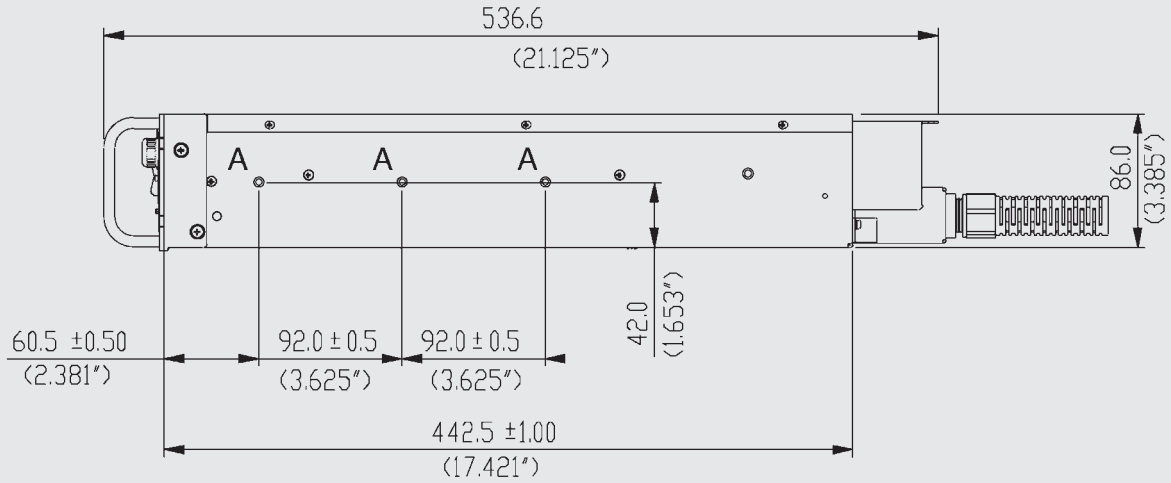
Outline Drawing Genesys™ 3.3 kW / 5 kW Units





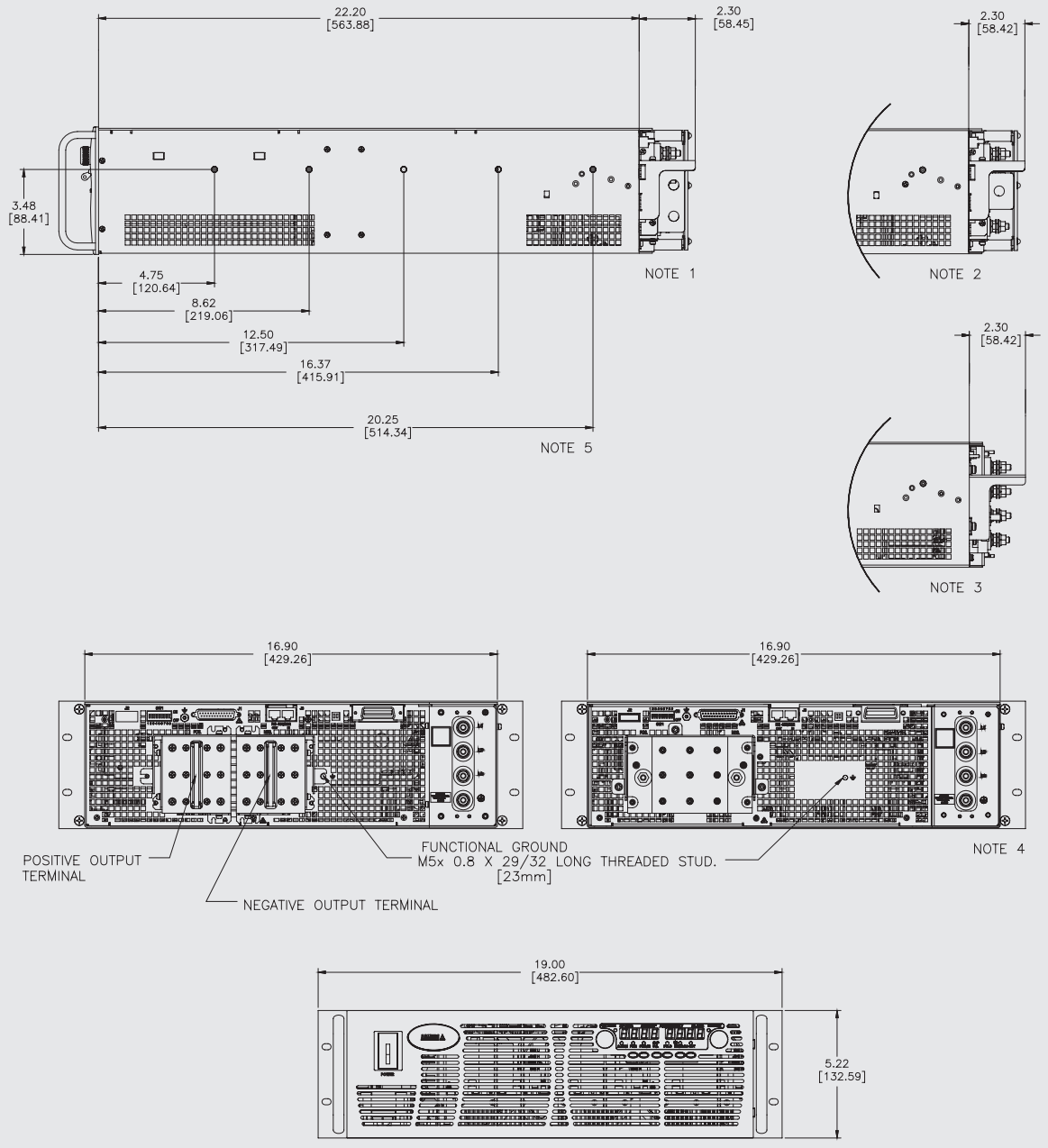


3 Phase Input Connector



1. Bus bars for 8 V to 100 V models (shown)
   Wire clamp connector for 150 V to 600 V models
2. Plug connectors included with the power supply
3. Chassis slides mounting holes #10-32 marked “A”
   GENERAL DEVICES P/N: C-300-S-116 or equivalent

Outline Drawing Genesys™ 3 U – 10 kW / 15 kW Units



1. For models up to 80VDC Output two holes 0.42” Dia (10.72 mm)
2. For models 100-300VDC Output one hole 0.42” Dia (10.72 mm)
3. For models above 300V Output threaded stud terminal
4. Input Terminals M6x1 (3 + GND)
5. Mounting for Slide Mounts (not included).
   Recommend General Devices, Chassis Trak P/N C230-S-122.
   Secure with pan head screw M5x0.8-8 mm long MAX.

Accessories

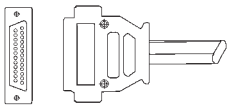
AC Cords sets (750 W only)

Region	Europe	United Kingdom	Japan	Middle East	North America
Output Power AC Cords Wall Plug Power Supply Connector	750 W 10 A / 250 VAC L=2 m INT'L 7/VII IEC320-C13	750 W 10 A / 250 VAC L=2 m BS1363 IEC320-C13	750 W 13 A / 125 VAC L=2 m IEC320-C13	750 W 10 A / 250 VAC L=2 m SI-32 IEC320-C13	750 W 13 A / 125 VAC L=2 m NEMA 5-15P IEC320-C13
Part Number	P/N: GEN/E	P/N: GEN/GB	P/N: GEN/J	P/N: GEN/I	P/N : GEN/U

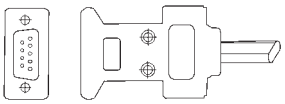
1. Communication cable

RS-232/RS-485 Cable is used to connect the power supply to the PC Controller

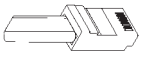
Mode	RS-485	RS-232	RS-232
PC Connector Communication Cable Power Supply Connector	DB-9F Shield Ground L=2 m EIA/TIA-568A (RJ-45)	DB-9F Shield Ground L=2 m EIA/TIA-568A (RJ-45)	DB-25F Shield Ground L=2 m EIA/TIA-568A (RJ-45)
P/N	GEN/485-9	GEN/232-9	GEN/232-25



DB-25 (female connector)



DB-9 (female connector)



EIA/TIA (RJ-45)

2. Serial link cable (Included with power supply)

Daisy-chain up to 31 Genesys™ power supplies

Mode	Power Supply Connector	Communication Cable	P/N
RS-485	EIA/TIA-568A (RJ-45)	Shield Ground L=50 cm	GEN/RJ45

Rack Mounting applications **P/N:GENH/RM**

The Rack Mounted kit allows the units to be zero stacking for maximum system flexibility and power density without increasing the 1 U height of the units. To install one GENH 750 W one unit or two units side-by-side in a standard 19" rack in 1 U (1.75") height, use option kit P/N:GENH/RM

Single unit installation

Single GENH 750 W power supply in a standard 19" rack in 1 U (1.75") height

Dual unit installation

Two GENH750 W power supplies side-by-side in a standard 19" rack in 1 U (1.75") height

Benchtop applications **P/N:GENH/MO**

The benchtop mounted kit allows the units to be Zero stacking for maximum system flexibility and power density without increasing the 1 U height of the units. To install a GENH 750 W two units or three units one on top of the other use option kit P/N:GENH/MO




Notes

Zero-Up 200 W / 400 W / 800 W Built-in RS232 & RS485 Interface with GPIB optional

- Constant Voltage / Constant Current
- Built-in RS232 & RS485 Interface
- An embedded Microprocessor controller
- Digital Encoder Knob
- Software Calibration
- Last Setting Memory
- Parallel Operation (Master/Slave) Active Current Sharing
- External Voltage or Resistance Programming
- Voltage up to 120 V, Current up to 132 A
- Active Power Factor Correction: 99 %
- 85~265 VAC Universal Input Voltage
- 19" Rack Mounted ATE and OEM
- Worldwide Safety Agency Approvals
- CE Mark for LVD and EMC Regulation

c UL us LISTED

TÜV Rheinland GS geprüfte Sicherheit CE

Product Line Up

Model	Output Voltage VDC	Output Current (A)	Output Power (W)
ZUP6-33	0 ~ 6 VDC	0 ~ 33	198
ZUP6-66		0 ~ 66	396
ZUP6-132		0 ~ 132	792
ZUP10-20	0 ~ 10 VDC	0 ~ 20	200
ZUP10-40		0 ~ 40	400
ZUP10-80		0 ~ 80	800
ZUP20-10	0 ~ 20 VDC	0 ~ 10	200
ZUP20-20		0 ~ 20	400
ZUP20-40		0 ~ 40	800

Model	Output Voltage VDC	Output Current (A)	Output Power (W)
ZUP36-6	0 ~ 36 VDC	0 ~ 6	216
ZUP36-12		0 ~ 12	432
ZUP36-24		0 ~ 24	864
ZUP60-3.5	0 ~ 60 VDC	0 ~ 24	200
ZUP60-7		0 ~ 7	420
ZUP60-14		0 ~ 14	840
ZUP80-2.5	0 ~ 80 VDC	0 ~ 2.5	200
ZUP80-5		0 ~ 5	400
ZUP120-1.8	0 ~ 120 VDC	0 ~ 1.8	216
ZUP120-3.6		0 ~ 3.6	432

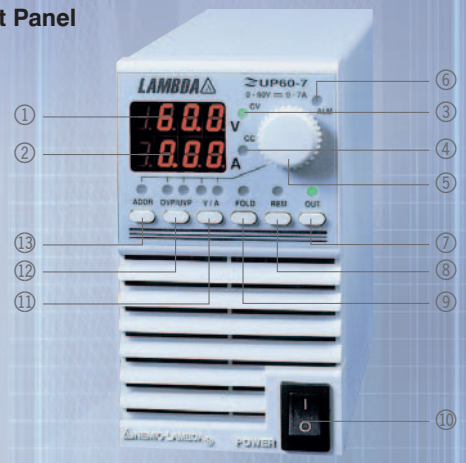
Power Supply Identification / Accessories

ZUP	36	– 12	/			
Series Name	Output Voltage (0 ~ 36 V)	Output Current (0 ~ 12 A)	Front Panel L. Output Jack BLANK: Standard	AC Cable E. Europe U. USA O. Unterminated I: SI 32 std. BLANK: None	Serial Link Cable W. Cable included BLANK: None	

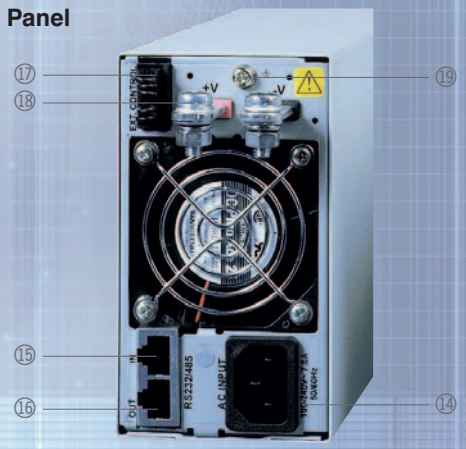
1. Digital Voltmeter
2. Digital Amperemeter
3. Constant Voltage Mode Indicator
4. Constant Current Mode Indicator
5. Voltage/Current, OVP/UVP, Address Adjust
6. Alarm (OVP, OTP, FOLD)
7. Output ON/OFF Control
8. Local/Remote Select
9. Foldback Protection Control
10. AC Power Switch
11. Voltage/Current Mode Control
12. Overvoltage/Undervoltage Setting
13. Address Setting

14. IEC320 AC Input Connectors
15. Remote IN Programming via RS-232/RS-485
16. Remote OUT Via RS-485 Communications
    Chaining Power Supplies to Serial Communication Bus
17. External Analog Programing Control Connector
18. Output Bus Bars (6 V to 60 V) model shown.
    80 V to 120 V models PHOENIX: PSC Plug Connectors
19. Ground Thread

Front Panel



Rear Panel





Specifications ZUP Series

Model				ZUP6-33	ZUP6-66	ZUP6-132
Output voltage (*1)			V	0-6	0-6	0-6
Output current (*2)			A	0-33	0-66	0-132
Rated output power			W	198	396	792
Constant voltage	Load regulation		–	0.005 %+2 mV, from No load to Full load, constant input voltage		
	Line regulation		–	0.005 %+1 mV, from 85-132 VAC or 170-265 VAC, constant load		
	RMS ripple (5 Hz–1 MHz Bandwidth)		mV	5	5	8
	Ripple (pk to pk) (20 MHz Bandwidth)		mV	50	50	100
	Recovery time *3)		ms	1	1	1
	Temperature coefficient		–	30 ppm/°C from rated voltage following 30-minute warm-up.		
	Temperature drift		–	0.01 %+2 mV Change in output, over 8-hour interval under constant line, load and ambient temperature following 30-minute warm-up		
	UP Programming response time (*4)		ms	50	50	60
	Down programming	Full load	ms	50	50	50
	Response time	No load	ms	250	350	
Constant current	Load regulation (*5)		–	0.01 %+5 mA	0.01 %+5 mA	0.07 %+10 mA
	Line regulation (*6)		–	0.01 %+2 mA	0.01 %+2 mA	0.01 %+5 mA
	RMS ripple (5 Hz–1 MHz Bandwidth)		mA	50	100	200
	Temperature coefficient		–	100 ppm/ °C from rated current following 30-minute warm-up.		
	Temperature drift (*8)		–	0.02 %+5 mA	0.02 %+5 mA	0.05 %+10 mA
Programming (*9)	Resolution		–	Better than 0.028 % of rated output voltage		
	Voltage Accuracy		–	0.02 %+5 mV	0.02 %+5 mV	0.02 %+5 mV
	Resolution		–	Better than 0.03 % of rated output current		
	Current Accuracy		–	0.4 %+40 mA		
Overvoltage Protection (*10)			V	0–7.5	0–7.5	0–7.5
Hold-up time			–	20 ms @ 100 V/200 VAC, rated output voltage and output current.		
Display	Voltage		–	3 digits (6 v; 20 v; 36 v; 60 v; 80 v); 3.5 digits (10 v; 120 v) accuracy: 0.2 % ±2 digits		
	Current		–	3.5 digits (132 A); All others 3 digits, accuracy: 0.5 % ±3 digits		
	Status		–	CV/CC, Alarm, Fold, Local/Remote, On/Off		
Output protections			–	Over Voltage, Over Temperature, Foldback.		
Input	Input voltage (*11)		–	85–265 VAC Continuous, 47–63 Hz		
	Input current (*12)		A	3.0/1.5	5.6/2.7	11.2/5.4
	Inrush current (100/200 V)		A	15/30 (*7)	15	30
	Efficiency (*12)		%	69/72	74/77	74/77
	Input current harmonics		–	Complies with EN61000-3-2, Class A		
	Power factor (TYP)		–	0.99 at 100/200 VAC, 100 % load.		
Environment	Operating temperature		–	0 to 50 °C ; 100 % Load		
	Operating humidity		–	30-90 % RH (No dewdrop).		
	Storage temperature		–	–20 to 70 °C		
	Operating humidity		–	10 – 95 % RH (No dewdrop).		
Mechanical	Vibration		–	10–55 Hz, Amplitude (sweep 1 min) 2G, X, Y, Z, When mounted with mounting screws.		
	Shock		–	Less than 20G		
	Weight		kg	2.9	3.2	5.8
	Size (WxHxD)		mm	200 W and 400 W units: 70 x 124 x 350. 800 W units: 140 X 124 X 350 (Refer to outline drawing)		

*1, *2, *3, *4, *5, *6, *8, *11, *12: annotation on page 36.

ZUP10-20	ZUP10-40	ZUP10-80	ZUP20-10	ZUP20-20	ZUP20-40	ZUP36-6
0-10	0-10	0-10	0-20	0-20	0-20	0-36
0-20	0-40	0-80	0-10	0-20	0-40	0-6
200	400	800	200	400	800	216
5	5	8	5	5	5	5
50	50	90	50	50	80	50
1	0.5	0.5	0.5	0.2	0.2	0.2
50	50	60	50	50	60	50
50	50	50	50	50	50	50
0.01 %+5 mA	0.01 %+5 mA	0.07 %+10 mA	0.01 %+5 mA	0.01 %+5 mA	0.07 %+10 mA	0.01 %+5 mA
0.01 %+2 mA	0.01 %+2 mA	0.01 %+5 mA	0.01 %+2 mA	0.01 %+2 mA	0.01 %+5 mA	0.01 %+2 mA
25	50	100	15	30	60	7.5
0.02 %+5 mA	0.02%+5 mA	0.05 %+10 mA	0.02 %+5 mA	0.02 %+5 mA	0.02 %+10 mA	0.02 %+5 mA
0.02 %+8 mV	0.02 %+8 mV	0.02 %+8 mV	0.02 %+12 mV	0.02 %+12 mV	0.02 %+12 mV	0.02 %+20 mV
0–13	0–13	0–13	0–24	0–24	0–24	0–40
2.9/1.4	5.6/2.7	11.2/5.4	2.9/1.4	5.6/2.7	11.2/5.4	2.9/1.4
15/30 (*7)	15	30	15/30	15	30	15/30 (*7)
73/77	79/82	77/81	74/78	79/83	79/82	76/80
2.9	3.2	5.8	2.9	3.2	5.8	2,9

Sequel ▸



Specifications ZUP Series

Model				ZUP6-33	ZUP6-66	ZUP6-132
External control Functions	Output on/off		–	By TTL Signal or Dry Contact (Refer to instruction manual)		
	Output good		–	Open collector (Refer to instruction manual).		
	Output voltage programming		–	By Voltage (0–4 V) or by Resistance (0–4 K) (Refer to instruction manual).		
	Output current programming		–	By Voltage (0–4 V) or by Resistance (0–4 K) (Refer to instruction manual).		
	Remote sensing		–	Maximum 0.5 V drop on each load wire for model up to 60 V and 2 V for the 80 V, 120 V models		
	Communication interface		–	RS232 and RS485 Built-in, IEEE488 Optional.		
Approvals	Safety standards		–	UL3111-1, EN61010-1		
	EMC standards		–	EN61326-1, IEC 61326-1, FCC part 15 (class A)		
Conducted EMI			–	EN55022-B, FCC-B, VCCI-2		
Radiated EMI			–	EN55022-A, FCC-A, VCCI-1		
Series operation			–	Up to 2 units (Refer to instruction manual).		
Parallel operation			–	Master/Slave method; up to 5 units (Refer to instruction manual)		
Cooling			–	Forced air by blower fan (Blower fan is mounted within unit)		
Withstand options			–	Input – Chassis...2.0 kVAC 1 min, Input – Output...3.0 kVAC 1 min, Output – GND...500 VAC 1 min.		
Isolation resistance			–	More than 100 MOhm at 25 °C and 70 % R.H.		

Model				ZUP36-12	ZUP36-24	ZUP60-3.5
Output voltage (*1)			V	0-36	0-36	0-60
Output current (*2)			A	0-12	0-24	0-3.5
Rated output power			W	432	864	210
Constant voltage	Load regulation		–	0.005 %+2 mV, from No load to Full load, constant input voltage		
	Line regulation		–	0.005 %+1 mV, from 85-132 VAC or 170-265 VAC, constant load		
	RMS ripple (5 Hz–1 MHz Bandwidth)		mV	5	5	5
	Ripple (pk to pk) (20 MHz Bandwidth)		mV	50	70	50
	Recovery time (*3)		ms	0.2	0.2	0.2
	Temperature coefficient		–	30 ppm/°C from rated voltage following 30-minute warm-up.		
	Temperature drift		–	0.01 %+2 mV Change in output, over 8-hour interval under constant line, load and ambient temperature following 30-minute warm-up		
	UP Programming response time (*4)		ms	50	60	50
	Down programming	Full load	ms	50	50	50
	Response time	No load	ms	500	500	750
Constant current	Load regulation (*5)		–	0.01 %+5 mA	0.07 %+10 mA	0.01 %+5 mA
	Line regulation (*6)		–	0.01 %+2 mA	0.01 %+5 mA	0.01 %+2 mA
	RMS ripple (5 Hz–1 MHz Bandwidth)		mA	15	30	5
	Temperature coefficient		–	100 ppm/°C from rated current following 30-minute warm-up.		
	Temperature drift (*8)		–	0.02 %+5 mA	0.05 %+10 mA	0.02 %+5 mA
Programming (*9)	Resolution		–	Better than 0.028 % of rated output voltage		
	Voltage Accuracy		–	0.02 %+5 mV	0.02 %+5 mV	0.02 %+5 mV
	Resolution		–	Better than 0.03 % of rated output current		
	Current Accuracy		–	0.4 %+40 mA		
Overvoltage Protection (*10)			V	0-40	0-40	0-66
Hold-up time			–	20 ms At 100 V/200 VAC, rated output voltage and output current.		

*1, *2, *3, *4, *5, *6, *8, *9, *10: annotation on page 44.

ZUP10-20	ZUP10-40	ZUP10-80	ZUP20-10	ZUP20-20	ZUP20-40	ZUP36-6

ZUP60-7	ZUP60-14	ZUP80-2.5	ZUP80-5	ZUP120-1.8	ZUP120-3.6	
0-60	0-60	0-80	0-80	0-120	0-120	
0-7	0-14	0-2.5	0-5	0-1.8	0-3.6	
420	840	200	400	216	432	
		0.005 %+4 mV				
		0.005 %+2 mV				
5	5	20	20	20	20	
50	60	70	70	80	80	
0.2	0.2	0.2	0.2	0.2	0.2	
50	60	100	100	100	100	
50	70	60	60	80	80	
750	750	800	800	1000	1000	
0.01 %+5 mA	0.07 %+10 mA	0.01 %+5 mA	0.02 %+5 mA	0.01 %+5 mA	0.01 %+5 mA	
0.01 %+2 mA	0.01 %+5 mA	0.01 %+2 mA	0.01 %+2 mA	0.01 %+2 mA	0.01 %+2 mA	
10	20	5	5	5	5	
0.02 %+5 mA	0.05%+10 mA	0.02 %+5 mA	0.02 %+5 mA	0.02 %+5 mA	0.02 %+5 mA	
0.02 %+8 mV	0.02 %+8 mV	0.02 %+8 mV	0.02 %+8 mV	0.02 %+5 mV	0.02 %+5 mV	
0-66	0-66	0-88	0-88	0-132	0-132	

Sequel ▸



Specifications ZUP Series

Model				ZUP36-12	ZUP36-24	ZUP60-3.5
Display	Voltage		–	3 digits (6 v; 20 v; 36 v; 60 v; 80 v); 3.5 digits (10 v; 120 v) accuracy: 0.2 % ±2 digits		
	Current		–	3.5 digits (132A); All others 3 digits, accuracy: 0.5 % ±3 digits		
	Status		–	CV/CC, Alarm, Fold, Local/Remote, On/Off		
Output protections			–	Over Voltage, Over Temperature, Foldback.		
Input	Input voltage (*11)		–	85–265 VAC Continuous, 47–63 Hz		
	Input current (*12)		A	5.6/2.7	11.2/5.4	2.9/1.4
	Inrush current (100/200 V)		A	15	30	15/30 (*7)
	Efficiency (*12)		%	80/84	80/84	75/79
	Input current harmonics		–	Complies with EN61000-3-2, Class A		
	Power factor (TYP)		–	0.99 at 100/200 VAC, 100 % load.		
Environment	Operating temperature		–	0 to 50 °C ; 100 % Load		
	Operating humidity		–	30-90 % RH (No dewdrop).		
	Storage temperature		–	–20 to 70 °C		
	Operating humidity		–	10 – 95 % RH (No dewdrop).		
Mechanical	Vibration		–	10–55 Hz, Amplitude (sweep 1 min) 2G, X, Y, Z, When mounted with mounting screws.		
	Shock		–	Less than 20G		
	Weight		kg	3.2	5.8	2.9
	Size (WxHxD)		mm	200 W and 400 W units: 70 x 124 x 350. 800 W units: 140 X 124 X 350 (Refer to outline drawing)		
External control Functions	Output on/off		–	By TTL Signal or Dry Contact (Refer to instruction manual)		
	Output good		–	Open collector (Refer to instruction manual).		
	Output voltage programming		–	By Voltage (0–4 V) or by Resistance (0–4 K) (Refer to instruction manual).		
	Output current programming		–	By Voltage (0–4 V) or by Resistance (0–4 K) (Refer to instruction manual).		
	Remote sensing		–	Maximum 0.5 V drop on each load wire for model up to 60 V and 2 V for the 80 V, 120 V models		
	Communication interface		–	RS232 and RS485 Built-in, IEEE488 Optional.		
Approvals	Safety standards		–	UL3111-1, EN61010-1		
	EMC standards		–	EN61326-1, IEC 61326-1, FCC part 15 (class A)		
Conducted EMI			–	EN55022-B, FCC-B, VCCI-2		
Radiated EMI			–	EN55022-A, FCC-A, VCCI-1		
Series operation			–	Up to 2 units (Refer to instruction manual).		
Parallel operation			–	Master/Slave method; up to 5 units (Refer to instruction manual)		
Cooling			–	Forced air by blower fan (Blower fan is mounted within unit)		
Withstand options			–	Input – Chassis...2.0 kVAC 1 min, Input – Output...3.0 kVAC 1 min, Output – GND...500 VAC 1 min.		
Isolation resistance			–	More than 100 MOhm at 25 °C and 70 % R.H.		

*1: Minimum voltage is guaranteed to maximum 0.2 % of the rated output voltage.

*2: Minimum current is guaranteed to maximum 0.4 % of the rated output current.

*3: Time for recovery to within ±50 mV against current change of 50 % to 100 %.

*4: From zero volts to full scale, resistive load and current setting at maximum.

*5: From no load to full load, constant input voltage.

*6: From 85~132 VAC or 170~265 VAC constant load.

*7: At cold start Ta=25 °C.

*8: Change in output over 8 hour interval constant line, load and ambient temperature following 30-minutes warm-up.

*9: Given for control of the output via the serial communication or via front panel controls.

*10: Inverter shut down method, manual reset (OVP will shut down output).

*11: For cases where conformance to various safety specs. (UL, IEC, etc.) are required, to be described as 100–240 VAC (50/60 Hz) on name plate.

*12: At 100 V/200 V and Maximum Output Power.

ZUP60-7	ZUP60-14	ZUP80-2.5	ZUP80-5	ZUP120-1.8	ZUP120-3.6	
5.6/2.7	11.2/5.4	2.6/1.3	4.9/2.4	2.9/1.4	5.3/2.6	
15	30	15/30 (*7)	15	15/30 (*7)	15	
80/84	80/84	78/82	83/87	78/82	82/86	
3.2	5.8	2.9	3.2	2.9	3.2	

ZUP Configurations

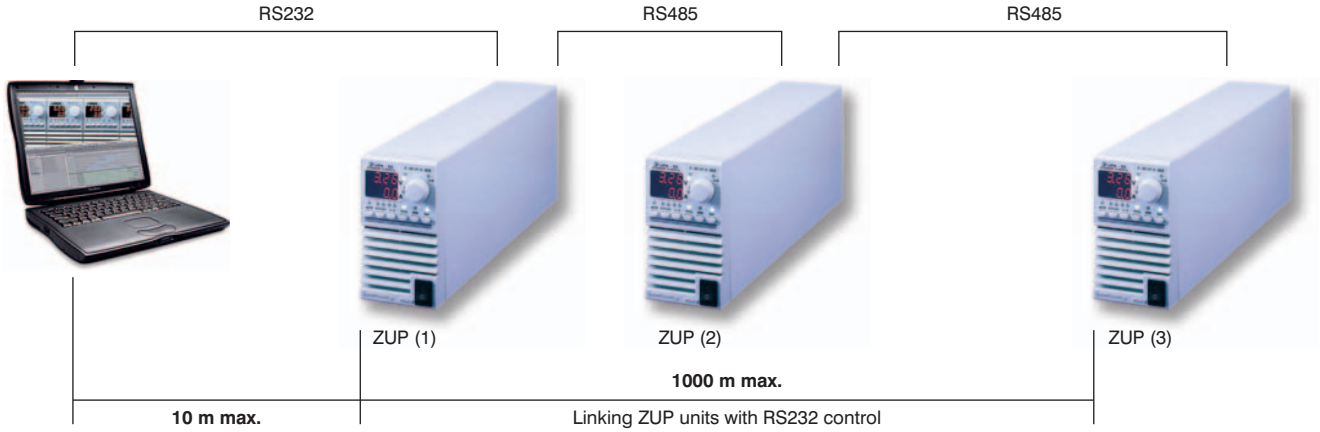
Benchtop Power Supply

Single

Parallel (Master/Slave)

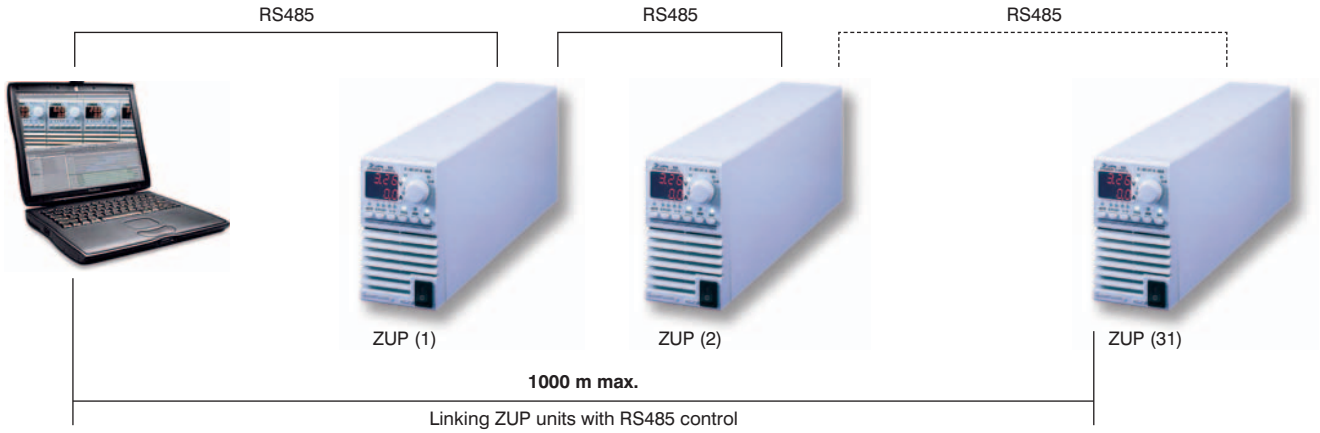
Parallel Operation

Master – Slave method: Active current sharing up to 5 units.



Remote Programming via RS232

Up to 31 ZUP units can be controlled via RS232 interface.



Remote Programming via RS485

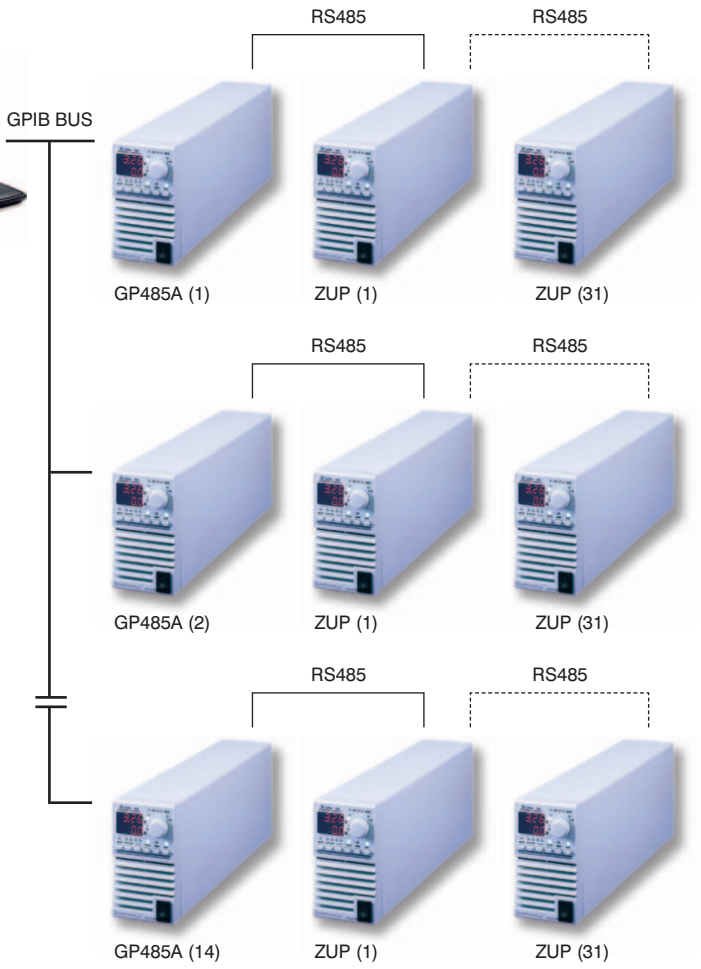
Up to 31 ZUP units can be controlled via RS485 interface. For operation environments that require high noise immunity or long distance communication, it is recommended to use the built-in RS485 interface.

Remote Programming Via GPIB

GPIB – RS485 Controller

The GP485A is a high performance serial to GPIB Interface. It enables a ZUP series with RS485 port to be a Talker, Listener, or controller on the GPIB.

- Controls up to 31 ZUP units through a single GPIB address
- Conforms to all versions of the IEEE488 standard, including IEEE488.2
- 19 racking possibility
- Application software – LabView, LabWindows



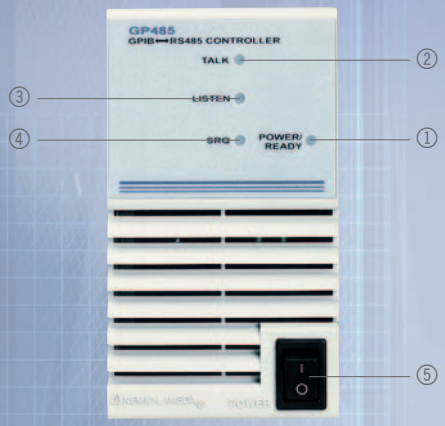
Rack Mounted ATE and OEM up to 2.4 KW

Six units can be assembled into 19-inch rack/3 U high to meet your configuration requirements

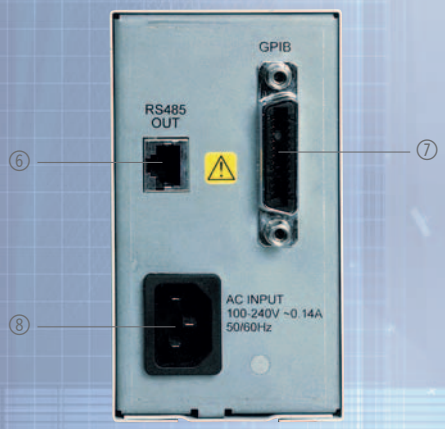
Power Modules Table

Module Type	200 W	400 W	800 W
0 ~ 6 V	33 A	66 A	132 A
0 ~ 10 V	20 A	40 A	80 A
0 ~ 20 V	10 A	20 A	40 A
0 ~ 36 V	6 A	12 A	24 A
0 ~ 60 V	3.5 A	7 A	14 A
0 ~ 80 V	2.5 A	5 A	
0 ~ 120 V	1.8 A	3.6 A	
19” rack width	1/6 width	1/6 width	2/6 width

Front Panel



Rear Panel



GP485A

The GP485A has all the software and logic required to implement the physical and electrical Specifications of the IEEE488 and RS485 standards.

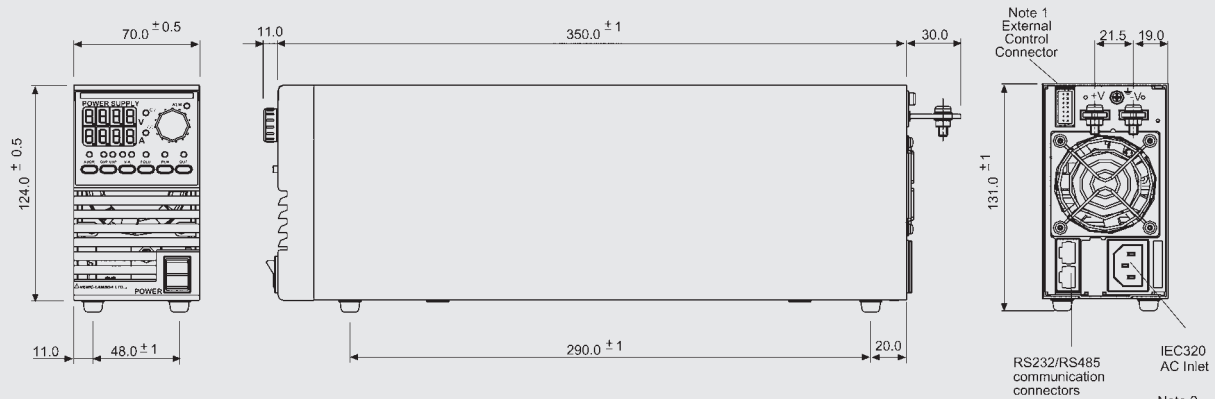
1. Power/Ready: Indicates that the power is ON and the self-test has passed successfully. The unit is ready to operate once the LED illuminates.
2. Talk: Indicates that the GP485A is addressed as a GPIB Talker.
3. Listen: Indicates that the GP485A is addressed as a GPIBListener.
4. SRQ: Indicates that the GP485A signal line SRQ is asserted.
5. AC ON/OFF: Turns AC power On and Off.

6. RS485 OUT: EIA-568A shielded type connector, used for RS485 communication with ZUP power supplies.
7. GPIB: Shielded 24-pin Champ female connector, with metric screwlock. Used for GPIB communication with the GPIB controller.
8. AC Input: IEC type appliance inlet.

Specifications

Input Voltag/freq	VAC	85 ~ 265 VAC continuous 47 ~ 63 Hz
Input consuption	W	5 W
IEEE 488 Capability		SH1, AH1, T6, TE0, L4, LE0, SR1, RL0, PP1, DC1, DT0, C0, E1, E2
Indication LED's		Power/Ready, Talk, Listen, SRQ
Baud rate		Optional 300, 600, 1200, 2400, 4800, 9600 Default:9600
Address		1 up to 30 can be set using an address switch
Operating temperature	°C	0 ~ 50
Storage temperature	°C	–20 ~ 70
Conducted emission		EN5022B, FCC-B
Radiated emission		EN5022A, FCC-A
Safety standards		UL3111-1, EN61010-1
EMC standards		EN61326-1, IEC 61326-1, FCC part 15 (class A).
Withstand voltage		Input – Chassis 2.0 kVAC 1min, Input – Output 3.0 kVAC 1 min, Output – Chassis 500 VAC 1 min.
Vibration	G	10–55 Hz, Amplitude (sweep 1 min) 2G, X, Y, Z, When mounted with mounting screws.
Size (WxHxD)	mm	70 x 124 x 350 (GP 485 has all the mechanical specifications & mounting hole as ZUP 200 W/400 W units)
Weight	kg	1.95

Outline Drawings ZUP 200 W/400 W Units



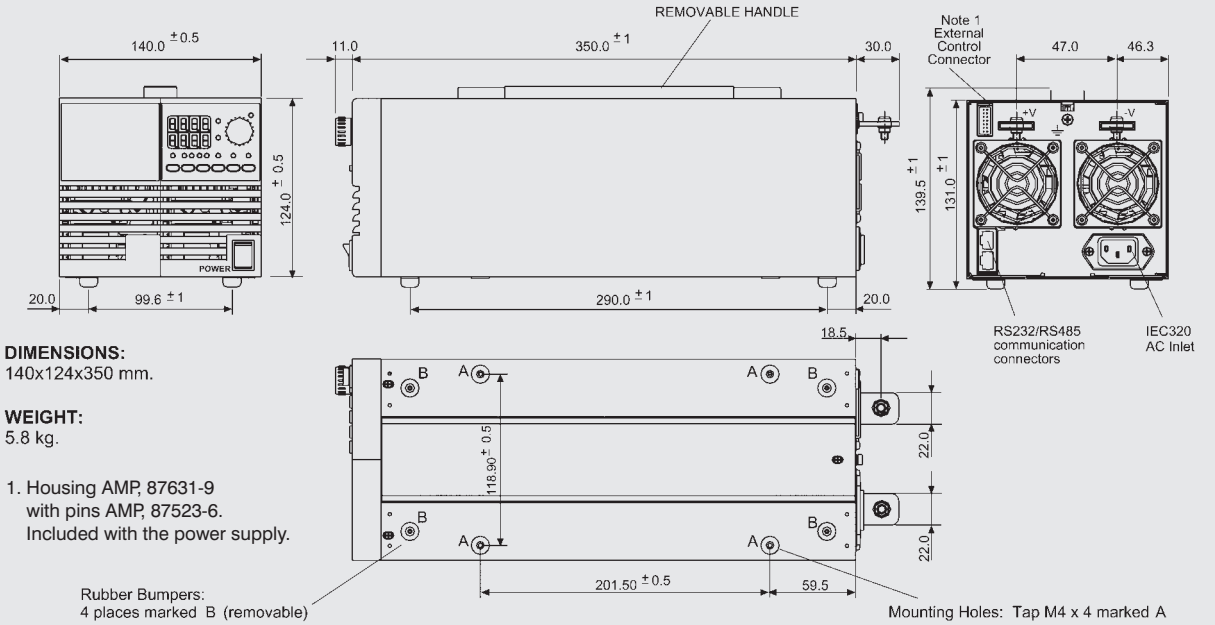
DIMENSIONS: mm
70x124x350

WEIGHT: Kg
200W units: 2.9
400W units: 3.2

1.Housing AMP: 87631-9 with pins AMP: 87523-6.

2. Header PHOENIX: PSC 1,5/3-M-PE
Plug PHOENIX: PSC 1,5/3-3-F
Plastic cable housing
Included with the power supply.

Outline Drawings ZUP 800 W Unit



DIMENSIONS:
140x124x350 mm.

WEIGHT:
5.8 kg.

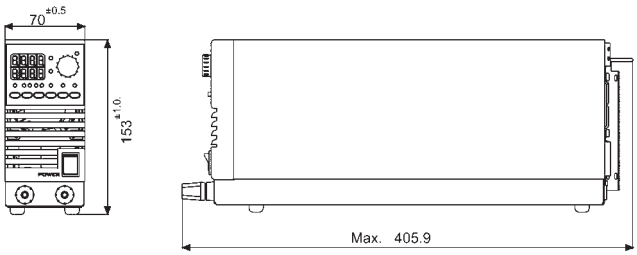
1. Housing AMP, 87631-9
with pins AMP, 87523-6.
Included with the power supply.

Options (200 W, 400 W, 800 W Models)

1. FRONT PANEL OUTPUT JACKS **P/N: ZUP / L**

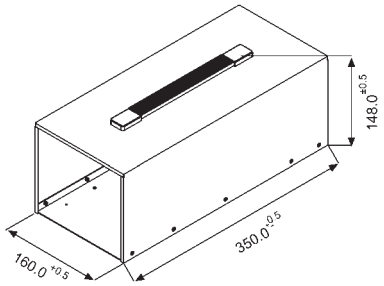
Up to 20 A output current via front panel jacks,
only for models up to 60 V output voltage.

Outline Drawing: Physical Dimensions in mm.
ZUP 200 W/400 W Units: 70x153x405.9
ZUP 800 W Units: 140x153x405.9



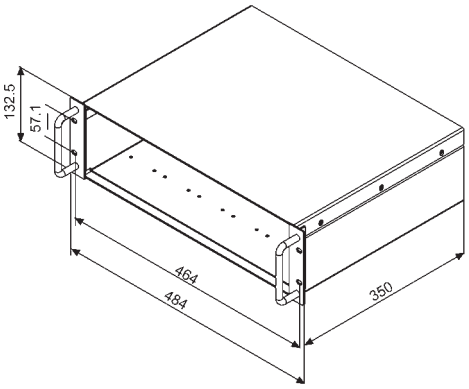
2. ZUP Assemblies **P/N: NL200**

Dual Output Packing 200 W/400 W models



3. 19” Rack mounted ate and OEM up to 2.4 kW

Up to six power units can be assembled into a 19, 3 U rack, kit P/N NL100. In cases where the entire rack is not occupied with power units, NL101 blank panels can be installed. P/N: NL100



Accessories

1. AC Cord Sets

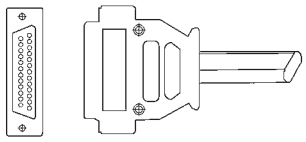
Three optional cords are possible according to order:

Region	Europe	United Kingdom	Japan	Middle East	North America
Output Power AC Cords Wall Plug Power Supply Connector	750 W 10 A / 250 VAC L=2 m INT'L 7/VII IEC320-C13	750 W 10 A / 250 VAC L=2 m BS1363 IEC320-C13	750 W 13 A / 125 VAC L=2 m IEC320-C13	750 W 10 A / 250 VAC L=2 m SI-32 IEC320-C13	750 W 13 A / 125 VAC L=2 m NEMA 5-15P IEC320-C13
Part Number	ZUP/E	ZUP/GB	ZUP/J	ZUP/I	ZUP/U

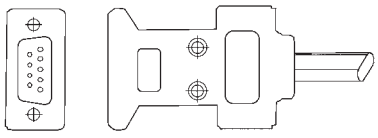
2. Communication Cable

RS232/RS485 cable is used to connect the power supply to the PC controller

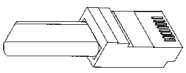
Mode	PC connector	Communication cable	Power Supply Connector	P/N
RS232	DB-9	Shield Ground L=1 m	EIA / TIA-568A (RJ-45)	ZUP/NC401
RS232	DB-25	Shield Ground L=1 m	EIA / TIA-568A (RJ-45)	ZUP/NC403
RS485	DB-9	Shield Ground L=1 m	EIA / TIA-568A (RJ-45)	ZUP/NC402
RS485	DB-25	Shield Ground L=1 m	EIA / TIA-568A (RJ-45)	ZUP/NC404



DB-25 (female connector)



DB-9 (female connector)



EIA/TIA (RJ-45)

3. ZUP serial link cable

Used to chain Power Supply to Power Supply from a serial communication bus

Mode	Communication cable	Power Supply Connector Remote IN /OUT	P/N
RS485	Shield Ground L=50 cm	EIA / TIA-568 A (RJ-45)	ZUP/W

LAMBDA

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