**Laboratory Power Supplies: 3.3KW** 





#### Features

- High Power Density 3.3KW in 2U
- Single phase 240VAC or 3phase 208VAC, 415VAC
- Power Factor Correction
- Output voltage up to 600V, current up to 400A
- Built-in RS232 / RS-485 Interface Standard
- Last Setting Memory: Front Panel Lockout
- Parallel Operation / Master Slave with up to four units
- Reliable Encoders for Voltage & Current adjustment
- Independent Remote ON/OFF and Remote Enable / Disable
- External Analog programming & Monitoring ( 0-5V or 0-10V )
- Auto Re-Start / Safe-Start: user selectable
- Optional Interfaces :
- > LX/ Compliant LAN
- Isolated Analog Programming & Monitoring Interface
- ➤ IEEE Multi-Drop –SCPI, USB interface
- Labview & LabWindows drivers

#### **Model Table Selection:**

Model	Outp	Power	
	V	Α	W
GEN8-400	0 – 8V	0 – 400A	3200W
GEN10-330	0 – 10V	0 – 330A	3300W
GEN15-220	0 – 15V	0 – 220A	3300W
GEN20-165	0 – 20V	0 –165A	3300W
GEN30-110	0 – 30V	0 – 110A	3300W
GEN40-85	0 – 40V	0 – 85A	3300W

Model	Out	Power	
	V	Α	W
GEN60-55	0 – 60V	0 – 55A	3300W
GEN80-42	0 – 80V	0 – 42A	3300W
GEN100-33	0 – 100V	0 – 33A	3300W
GEN150-22	0 – 150V	0 – 22A	3300W
GEN200-16.5	0 – 200V	0 – 16.5A	3300W
GEN300-11	0 – 300V	0 – 11A	3300W
GEN600-5.5	0 – 600V	0 – 5.5A	3300W

#### How to order:

<u>GEN</u>	10	<u> 330 -</u>	IEE -	<u>1P230</u>
Series Name	Output Voltage	Output Current	Options IEEE IS510 IS420	AC Input Options 1P230 (170-265V) 3P208 (170-264V) 3P400 (342-460V)
			IAN	

#### **Options:**

1phase 240VAC ) - **1P230** 3phase 208VAC ) -**3P208** 3phase 400VAC ) -**3P400** 

RS232 / RS-485 Interface built-in ( Standard )
GPIB ( Multi-Drop Master Interface ) – IEEE
Voltage Programming Isolated Analog Interface – IS510
Current Programming Isolated Analog Interface - IS420
LAN Interface ( complies with LXI Class C ) - LAN

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#### **Front Panel Description**

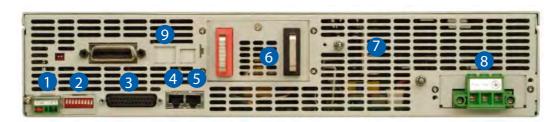


- 1. ON/OFF Switch
- 2. Air Intake allows zero stacking for maximum system flexibility and power density.
- 3. Reliable encoder controls Output Voltage, Address, OVP and UVL settings.
- 4. Volt Display shows Output Voltage and directly displays OVP, UVL and Address settings.
- 5. Reliable encoder controls Output Current, sets baudrate 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 or Slave
  - Preview settings and set Voltage/Current with Output OFF, Front Panel Lock
  - Parallel Master/Slave
  - Set OVP and UVL Limits
  - Set Current Foldback Protection
  - Go to Local Mode and select Address and Baud rate
  - Output ON/OFF and Auto-Re-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 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 100V Output; wire clamp connector for Outputs >100V.
- 7. Exit air assures reliable operation when zero stacked.
- 8. Input: 230VAC Single Phase (shown), 208 & 400VAC Three Phase, 50/60 Hz AC Input Connector: PHOENIX CONTACT Power Combicon PC 6/... Series with strain relief.
- 9. Optional Interface Position for IEEE 488.2 SCPI (shown) or Isolated Analog Interface or LAN Interface.

#### **Laboratory Power Supplies: 3.3KW**

# POWER SOLUTIONS www.heliosps.com

#### Genesys ™ 3.3kW Specifications

1.0 MODEL												ions in bl		
MODEL	GEN	8-400	10-330	15-220	20-165		40-85	60-55	80-42			200-16.5		
1.Rated output voltage(*1)	V	8	10	15	20	30	40	60	80	100	150	200	300	600
2.Rated Output Current(*2)	A	400	330	220	165	110	85	55	42	33	22	16.5	11	5.5
3.Rated Output Power 1.1 CONSTANT VOLTAGE MODE	W	3200	3300	3300	3300	3300	3400	3300	3360	3300	3300	3300	3300	3300
1.Max.line regulation (0.01% of rated Vo+ 2mV)(*6)	mV	2.8	3	3.5	4	5	6	8	10	12	17	22	32	62
2.Max load regulation (0.015% of rated Vo+5mV)(*7)		6.2	6.5	7.25	8	9.5	11	14	17	20	27.5	35	50	95
3.Ripple and noise p-p 20MHz (*8)	mV	55	55	55	55	55	55	60	70	100	100	275	300	350
4.Ripple r.m.s 5Hz~1MHz	mV	8	8	7	7	7	7	7	20	25	20	70	80	80
5.Remote sense compensation/wire	V	2	2	2	2	5	5	5	5	5	5	5	5	5
6.Temp. coefficient	PPM/°C		°C of rat											
7.Temp. stability											t line, load	d & temp.		
8.Warm-up drift		Less thai	n 0.05% o			tage+2m	V over 30	minutes			ار.	20		250
9.Up-prog. response time, 0~Vo Rated (*9) 10.Down-prog response Full-load (*9)	mS mS	20		100	0		160		- 1:	50	300	20	10	250 500
10.Down-prog response Full-load (*9) No-load (*10)	mS	500	600	700	800	900	1000	1100	1200	1500	2000	3000	3500	4000
												rated outp		
11.Transient response time	mS	set-noin	ουιραι να +∙ 10-1000	% local s	anca Lace	than 1m	Sec for m	nodals un	. 101 a 10ac	cluding	10-90%01 100V 2ms	sec for mo	dels abov	اد.Outpt م ۱۸۸۷
1.2 CONSTANT CURRENT MODE		set-poin	t. 10-100 /	o, iocai s	elise, Les	s triair iii	3ec 101 11	ioueis up	to and ii	icidaling	100 v. 21113	sec ioi iiioi	ueis abov	C 100V
1.Max.line regulation (0.01% of rated lo+ 2mA)(*6)	mA	42	35	24	18.5	13	10.5	7.5	6.2	5.3	4.2	3.65	3.1	2.6
2.Max.load regulation (0.02% of rated lo+5mA)(*11)		85	71	49	38	27	22	16	13.4	11.6	9.4	8.3	7.2	6.1
3.Ripple r.m.s 5Hz~1MHz . (*12)	mA	1000	650	400	300	250	150	70	60	50	20	30	15	8
4.Load regulation thermal drift			n 0.1% of											
5.Temp. coefficient	PPM/°C	70PPM/	°C from	rated or	itput cui	rrent, fol	lowing 30	) minutes	warm-u	p.				
6.Temp. stability												l & temper	ature.	
7.Warm-up drift											ng power			
·		30V~600	)V model:	s: Less th	an ±0.259	% of rated	output o	current o	ver 30 mi	nutes foll	lowing po	wer On.		
1.3 PROTECTIVE FUNCTIONS		0 4												
1. OCP			Constant			.1							-	-
2. OCP Foldback			hut dow									ion port c		
3. OVP type												5~220V		
4. OVP trip point 5. Output Under Voltage Limit			y front pa									3~22UV	J3~33UV	3~0001
6. Over Temp. Protection	-		ectable , la				. rieveiit	s iioiii au	ijusting v	out belov	vv IIIIIIL.			
1.4 ANALOG PROGRAMMING AND MONITO	RING	0361 3616	ctable, i	attrieu o	i iioii-iate	ileu.								
1.Vout Voltage Programming	IIIII	0~100%	0~5V or	0~10V. u	ser select	Accurac	v and line	arity:+0	5% of rat	ed Vout				
2.lout Voltage Programming (*13)														
3.Vout Resistor Programming		0~100%, 0~5V or 0~10V, user select. Accuracy and linearity:±1% of rated lout. 0~100%, 0~5/10Kohm full scale, user select., Accuracy and linearity: ±1% of rated Vout.												
4.lout Resistor Programming (*13)		0~100%, 0~5/10Kohm full scale,user select. Accuracy and linearity:±1.5% of rated lout.												
5.On/Off control (rear panel)		By electrical. Voltage: 0~0.6V/2~15V,or dry contact ,user selectable logic.												
6.Output Current monitor (*13)		0~5V or 0~10V , Accuracy:±1% , user selectable.												
7.Output Voltage monitor		0~5V or 0~10V ,Accuracy:±1% ,user selectable.												
8. Power Supply OK signal			(4~5V) -(											
9. CV/CC Indicator										<u>ximum si</u>	nk curren	t: 10mA		
10. Enable/Disable		Dry contact. Open:off , Short: on. Max. voltage at Enable/Disable in: 6V.  By electrical signal or Open/Short: 0~0.6V or short: Remote, 2~15V or open: Local.												
11. Local/Remote analog control											ı. ırrent: 10n	m Λ		
12. Local/Remote analog control Indicator 1.5 FRONT PANEL		Орепсо	nector, Lo	ocal: Off,	nemote: v	On. Maxii	num von	age: 50v,	IIIaxiiiiu	III SIIIK CU	ment: ioi	IIA.		
1.3 FRONT FANEL		Vout/In	ut manua	Ladiust h	w senarat	te encode	ars (cnars	e and fine	a adjustm	ent selec	rtahle)			
								<u>c ana min</u>	c aujustii	iciic scice	tubic).			
1.Control functions		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.												
3.14.15.15.15			selection											
Re-start modes (automatic restart, safe mode). Baud rate selection: 1200,2400,4800,9600 and 19,200.														
				Voltage: 4 digits, Accuracy: 0.05% of rated output Voltage ±1 count.										
2 Display		Voltage:	4 digits,							ι.				
2.Display		Voltage: Current:	4 digits , 4 digits, /	Accurac	y: 0.2% o	f rated o	output c	urrent ±	1 count.					
2.Display 3.Indications		Voltage: Current:	4 digits , 4 digits, /	Accurac	y: 0.2% o	f rated o	output c	urrent ±	1 count.		ock, CVCC	-		
' '	S Series	Voltage: Current: Voltage,	4 digits , 4 digits, , Current, ,	Accurac Alarm, Fi	y: 0.2% one, Previe	of rated o	output co ack, Loca	urrent ± I, Output	On, Fron		ock, CVCC			
3.Indications	S Series	Voltage: Current: Voltage,	4 digits , 4 digits, , Current, ,	Accurac Alarm, Fi	y: 0.2% one, Previe	of rated o	output co ack, Loca	urrent ± I, Output	On, Fron		ock, CVCC	200	300	600
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated)		Voltage: Current: Voltage, with RS	4 digits , 4 digits, , Current, , 5-232/RS	Accurac Alarm, Fi -485 Or	y: 0.2% one, Preview Option	of rated of ew, Foldb al GPIB	output co ack, Loca 'LAN Int	urrent ± l, Output erface lı	1 count. On, Fron	t Panel Lo			300	600
3.Indications 1.6 Interface Specifications for the GENESY 1. Remote Voltage Programming (16 bit)	V	Voltage: Current: Voltage, with RS	4 digits, 4 digits, Current, 5-232/RS	Accurac Alarm, Fi - <b>485 Or</b> 15	y: 0.2% one, Preview Option 20	of rated of ew, Foldb al GPIB/ 30	ack, Loca LAN Int	urrent ± I, Output erface II 60	1 count. On, Fron nstalled 80	t Panel Lo	150	200		
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)	V mV	Voltage: Current: Voltage, with RS 8 0.16	4 digits , 4 digits , Current , 5-232/RS 10 0.2	Accuract Alarm, Fi - <b>485 Or</b> 15 0.3	0.2% one, Preview Option 20 0.4	of rated co ew, Foldb al GPIB/ 30 0.6	output co ack, Loca 'LAN Int 40 0.8	urrent ± l, Output erface li 60 1.2	1 count. On, Fron nstalled 80 1.6	t Panel Lo	150	200	6	12
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit)	V mV mV	Voltage: Current: Voltage, with RS 8 0.16 4	4 digits, 4 digits, 7 Current, 6-232/RS 10 0.2 5	Accuract Alarm, Fi -485 Or 15 0.3 8	y: 0.2% cone, Previe Option 20 0.4 10	of rated dew, Foldb al GPIB/ 30 0.6 15	output co ack, Loca (LAN Int 40 0.8 20	urrent ± I, Output erface II 60 1.2 30	1 count. On, Fron nstalled 80 1.6 40	100 2 50	150	200 4 100	6 150	12 300
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)	V mV mV	Voltage: Current: Voltage, with RS 8 0.16	4 digits , 4 digits , Current , 5-232/RS 10 0.2	Accuract Alarm, Fi - <b>485 Or</b> 15 0.3	0.2% one, Preview Option 20 0.4	of rated control of rat	output co ack, Loca (LAN Int 40 0.8 20	urrent ± l, Output erface li 60 1.2	1 count. On, Fron nstalled 80 1.6	t Panel Lo	150 3 75	200 4 100	6	12 300 0.11
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of lo Rated) Accuracy (0.2% of lo Rated) Accuracy (0.2% of lo Rated)	V mV mV	Voltage: Current: Voltage, with RS 8 0.16 4	4 digits, 4 digits, 4 Current, 5-232/RS 10 0.2 5	Accuract Alarm, Fi -485 Or 15 0.3 8	y: 0.2% one, Preview Option 20 0.4 10 3.3	of rated dew, Foldb al GPIB/ 30 0.6 15	output co ack, Loca (LAN Int 40 0.8 20	urrent ± I, Output erface II 60 1.2 30	1 count. On, Fron nstalled 80 1.6 40	100 2 50	150 3 75	200 4 100	6 150 0.22	12 300
3.Indications 1.6 Interface Specifications for the GENESY 1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14) 2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of lo Rated) 3. Readback Voltage	W mV mV mA mA	Voltage: Current: Voltage, with RS 0.16 4 8 1200	4 digits , 4 digits , 4 digits , 7 Current , 8 -232/RS 10 0.2 5	Accuract Alarm, Fi 5-485 Or 15 0.3 8 4.4 660	20 0.4 10 3.3 495	of rated cew, Foldb al GPIB, 30 0.6 15	20 1.7 255	60 1.2 30 1.1 165	1 count. On, Fron nstalled 80 1.6 40 0.84 126	100 2 50 0.66 99	150 3 75 0.44 66	200 4 100 0.33 49.5	0.22 33	12 300 0.11 16.5
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.% of Io Rated) 3. Readback Voltage Resolution (% of Vo Rated)	V mV mV	Voltage: Current: Voltage, with RS 8 0.16 4 8 1200	4 digits, 4 digits, 4 digits, 5 digits, 7 Current, 6 -232/RS  10 0.2 5 6.6 990	Accuract Alarm, Fi -485 Or 15 0.3 8 4.4 660	y: 0.2% one, Preview Option: 20 0.4 10 3.3 495	of rated cew, Foldb al GPIB, 30 0.6 15 2.2 330	40 0.8 20 1.7 255	1.1 1.65 0.002	80 1.6 40 0.84 1.26	100 2 50 0.66 99	150 3 75 0.44 66	200 4 100 0.33 49.5	0.22 33	12 300 0.11 16.5
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of lo Rated) Accuracy (0.2% of lo Rated) Resolution (% of Vo Rated) Resolution (% of Vo Rated) Resolution (Readback Voltage)	W mV mV mA mA	Voltage:   Current:   Voltage,   S with RS	4 digits, 4 digits, 4 digits, 4 digits, 7 Current, 3 -232/RS  10 0.2 5  6.6 990  0.011 1.10	Accurac Alarm, Fi -485 Or 15 0.3 8 4.4 660 0.007 1.05	20 0.4 10 3.3 495	of rated cov. Foldbal GPIB, 30 0.6 15 2.2 330 0.004 1.20	20 (1.7) (2.5) (2.6) (2.	1.1 165 0.002 1.20	1 count. On, Fron nstalled 80 1.6 40 0.84 126	100 2 50 0.66 99	150 3 75 0.44 66	200 4 100 0.33 49.5	0.22 33 0.004 12.00	0.11 16.5 0.002 12.00
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated) Resolution (% of Vo Rated) Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated)	V mV mV	Voltage: Current: Voltage, with RS 8 0.16 4 8 1200	4 digits, 4 digits, 4 digits, 5 digits, 7 Current, 6 -232/RS  10 0.2 5 6.6 990	Accuract Alarm, Fi -485 Or 15 0.3 8 4.4 660	y: 0.2% one, Preview Option: 20 0.4 10 3.3 495	of rated cew, Foldb al GPIB, 30 0.6 15 2.2 330	40 0.8 20 1.7 255	1.1 1.65 0.002	80 1.6 40 0.84 1.26	100 2 50 0.66 99	150 3 75 0.44 66	200 4 100 0.33 49.5	0.22 33	0.11 16.5 0.002 12.00
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of lo Rated) Accuracy (0.2% of lo Rated) Accuracy (0.2% of lo Rated) 3. Readback Voltage Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated) 4. Readback Current	MA MA MV MV	Voltage: Current: Voltage, s with RS 0.16 4 8 1200 0.002 0.16 4	4 digits, 4 digits, 4 digits, 5 digits, 6 digits, 7 digi	Accuract Alarm, Fi -485 Or 15 0.3 8 4.4 660 0.007 1.05 8	20 0.4 10 3.3 495 0.006 1.20	of rated cov., Foldbal GPIB, 30 0.6 15 2.2 330 0.004 1.20 15	0.001 coack, Loca (LAN Int 40 0.8 20 1.7 255 0.003 1.20 20	urrent ± 1, Output erface II 60 1.2 30 1.1 165 0.002 1.20 30	1 count. On, Fron nstalled 80 1.6 40 0.84 126 0.002 1.60 40	100 2 50 0.66 99 0.011 11.00 50	150 3 75 0.44 66 0.007 10.50 75	200 4 100 0.33 49.5 0.006 12.00	0.22 33 0.004 12.00	0.11 16.5 0.002 12.00 300
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated) 3. Readback Voltage Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated) 4. Readback Current Resolution (% of Io Rated)	V   mV   mV   mA   mA   %   mV   mV   mV   mV   mV   %	Voltage: Current: Voltage, s with RS 8 0.16 4 1200 0.002 0.16 4 0.003	4 digits, 4 digits, 4 digits, 4 digits, 4 digits, 6 digits, 7 digits, 7 digits, 7 digits, 8 digits, 8 digits, 8 digits, 8 digits, 9 digi	Accuract Alarm, Fi -485 Or 15 0.3 8 4.4 660 0.007 1.05 8	20 0.4 10 3.3 495 0.006 1.20 10 0.007	of rated cow, Foldbal GPIB, 30 0.6 15 2.2 330 0.004 1.20 15	0.001 coack, Loca (LAN Int 40 0.8 20 1.7 255 0.003 1.20 20 0.002	urrent ± 1, Output erface II 60 1.2 30 1.1 165 1.20 30 30 0.002	1 count. On, Fron nstalled 80 1.6 40 0.84 126 0.002 1.60 40	100 2 50 0.66 99 0.011 11.00 50	150 3 75 0.44 66 0.007 10.50 75 0.005	200 4 100 0.33 49.5 0.006 12.00 100	0.22 33 0.004 12.00 150	12 300 0.11 16.5 0.002 12.00 300
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.% of Io Rated) (*13)  3. Readback Voltage Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated)  4. Readback Current Resolution (% of Io Rated) Resolution (% of Io Rated) Resolution (Readback Current)	V   mV   mV   mA   mA   %   mV   mV   mV   mV   mV   mV   mV	Voltage: Current: Voltage, with RS 8 0.16 4 1200 0.002 0.16 4 0.003 12.00	4 digits, 4 digits, 4 digits, 4 digits, 4 digits, 7 Current, 6-232/RS  10 0.2 5 6.6 990 0.011 1.10 5	Accuract Alarm, Fi -485 Or 15 0.3 8 4.4 660 0.007 1.05 8	9: 0.2% cone, Preview Option: 20 0.4 10 3.3 495 0.006 1.20 10 0.007	of rated cew, Foldbal GPIB, 30 0.6 15 2.2 330 0.004 1.20 15	0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002	urrent ± 1, Output erface II	1 count. On, Fron nstalled 80 1.6 40 0.84 126 0.002 1.60 40	100 2 50 0.66 99 0.011 11.00 50	150 3 75 0.44 66 0.007 10.50 75 0.005 1.10	200 4 100 0.33 49.5 0.006 12.00 100	0.22 33 0.004 12.00 150	0.11 16.5 0.002 12.00 300 0.002 0.11
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated) 3. Readback Voltage Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated) 4. Readback Current Resolution (% of Io Rated) Resolution (% of Io Rated) Resolution (Readback Current) Accuracy (0.3% of Io Rated) (*13)	V   mV   mV   mA   mA   %   mV   mV   mV   mV   mV   %	Voltage: Current: Voltage, s with RS 8 0.16 4 1200 0.002 0.16 4 0.003	4 digits, 4 digits, 4 digits, 4 digits, 4 digits, 6 digits, 7 digits, 7 digits, 7 digits, 8 digits, 8 digits, 8 digits, 8 digits, 9 digi	Accuract Alarm, Fi -485 Or 15 0.3 8 4.4 660 0.007 1.05 8	20 0.4 10 3.3 495 0.006 1.20 10 0.007	of rated cow, Foldbal GPIB, 30 0.6 15 2.2 330 0.004 1.20 15	0.001 coack, Loca (LAN Int 40 0.8 20 1.7 255 0.003 1.20 20 0.002	urrent ± 1, Output erface II 60 1.2 30 1.1 165 1.20 30 30 0.002	1 count. On, Fron nstalled 80 1.6 40 0.84 126 0.002 1.60 40	100 2 50 0.66 99 0.011 11.00 50	150 3 75 0.44 66 0.007 10.50 75 0.005	200 4 100 0.33 49.5 0.006 12.00 100	0.22 33 0.004 12.00 150	0.11 16.5 0.002 12.00 300 0.002 0.11
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of lo Rated) Accuracy (0.2% of lo Rated) Accuracy (0.2% of lo Rated) Accuracy (0.2% of Vo Rated) Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated)  4. Readback Current Resolution (% of lo Rated) Resolution (Readback Current) Accuracy (0.3% of lo Rated)  5. OVP/UVL Programming	W mV mV mV mA mA mA mA mA	Voltage:   Current:   Voltage,   with RS	4 digits, 4 digits, 4 digits, 4 digits, 4 digits, 6 Current, 6 -232/RS 10 0.2 5	Accuract Alarm, Fi 485 Or 15 0.3 8 4.4 660 0.007 1.05 8	y: 0.2% cone, Preview of the Preview	of rated cew, Foldball GPIB, 30	0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80	urrent ± I, Output erface II 60 1.2 30 1.1 165 0.002 1.20 30 0.002 1.10 165	1 count. On, Fron nstalled 80 1.6 40  0.84 126  0.002 1.60 40  0.003 1.26 126	100 2 50 0.66 99 0.011 11.00 50 0.004 1.32 99	150 3 75 0.44 66 0.007 10.50 75 0.005 1.10 66	200 4 100 0.33 49.5 0.006 12.00 100 0.007 1.16 49.5	0.22 33 0.004 12.00 150 0.01 0.11 33.0	12 300 0.11 16.5 0.002 12.00 300 0.002 0.11 16.5
3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated) 3. Readback Voltage Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated) 4. Readback Current Resolution (% of Io Rated) Resolution (% of Io Rated) Resolution (Readback Current) Accuracy (0.3% of Io Rated) (*13)	V   mV   mV   mA   mA   %   mV   mV   mV   mV   mV   mV   mV	Voltage: Current: Voltage, with RS 8 0.16 4 1200 0.002 0.16 4 0.003 12.00	4 digits, 4 digits, 4 digits, 4 digits, 4 digits, 7 Current, 6-232/RS  10 0.2 5 6.6 990 0.011 1.10 5	Accuract Alarm, Fi -485 Or 15 0.3 8 4.4 660 0.007 1.05 8	9: 0.2% cone, Preview Option: 20 0.4 10 3.3 495 0.006 1.20 10 0.007	of rated cew, Foldbal GPIB, 30 0.6 15 2.2 330 0.004 1.20 15	0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002 0.002	urrent ± 1, Output erface II	1 count. On, Fron nstalled 80 1.6 40 0.84 126 0.002 1.60 40	100 2 50 0.66 99 0.011 11.00 50	150 3 75 0.44 66 0.007 10.50 75 0.005 1.10	200 4 100 0.33 49.5 0.006 12.00 100	0.22 33 0.004 12.00 150	12 300 0.11 16.5 0.002 12.00 300

<sup>\*1:</sup> 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 190-240Vac (50/60Hz) for single phase and 3-Phase 208V models, and 380~415Vac (50/60Hz) for 3-Phase 400V models.

<sup>\*4:</sup> Single-Phase and 3-Phase 208V models: At 208Vac input voltage, 3-Phase 400V: At 380Vac input voltage. With rated output power.
\*5: Not including EMI filter inrush current, less than 0.2mSec.

<sup>\*6:</sup> Single-Phase and 3-Phase 208V models: 170~265Vac, constant load. 3-Phase 400V models: 342~460Vac, constant load.
\*7: From No-Load to Full-Load, constant input voltage. Maximum drop in Remote Sense.

<sup>\*8:</sup> For 8V~300V models: Measured with JEITA RC-9131A (1:1) probe.

For 600V model: Measured with 10:1 probe.
\*9: From 10% to 90% or 90% to 10% of Rated Output Voltage, with rated, resistive load.

<sup>\*10:</sup>From 90% to 10% of Rated Output Voltage.
\*11: For load voltage change, equal to the unit voltage rating, constant input voltage.

<sup>\*12:</sup> For 8V $\sim$ 15V models the ripple is measured from 2V to rated output voltage and rated output current. For other models, the ripple is measured at 10~100% of rated output voltage and rated

<sup>\*13:</sup> The Constant Current programming readback and monitoring accuracy does not include the warm-up and Load regulation thermal drift.
\*14: Measured at the sensing point.

## **Laboratory Power Supplies: 3.3KW**



# **General Specifications Genesys™ 3.3kW**

		1			T		T	1	T		1	T	T:	T
2.1 INPUT CHARACTERISTICS	GEN	8-400			20-165		40-85	60-55	80-42	100-33	150-22	200-16.5	300-11	600-5.
1	V/A.C				170~265Va		ΠZ							
1. Input voltage/freq. (*3)	VAC		3-Phase, 208V models: 170~265Vac, 47~63Hz 3-Phase, 400V models: 342~460Vac, 47~63Hz											
C I. Di 220V I. I.		+				T	24	22	22.5	22	22	22	22	22
2. Maximum   Single Phase, 230V models: 3-Phase, 208V models:	-1	24	24	24	24	23	24	23	23.5	23	23	23	23	23
at 100% load 3-Phase, 400V models:	Α	7.2	14.5 7.2	7.2	7.2	7.0	14.5 7.2	13.6	7.0	13.7 6.8	13.7 6.8	13.7 6.8	13.8	7.0
3. Power Factor (Typ)												ted output		7.0
4. Efficiency (*4)	%	82	83	83	83	86	86	88	88	88	87	87	87	87
4. Efficiency ( 4)	70				08V mode			00	00	00	07	07	07	07
5. Inrush Current (*5)	Α	3-Phase				:13. LE33 (I	Iaii Jun							
6. Hold-up time (Typ)	mS					208V mc	dels, 6mS	ec for 3-P	hase 400	V models.	Rated ou	tput powe	r.	
2.2 POWER SUPPLY CONFIGURATION							,						-	
1. Parallel Operation		Up to 4 io	dentical u	nits in ma	ster/slave	mode						,		
2. Series Operation					external o		00V Max to	Chassis o	around					
2.3 ENVIRONMENTAL CONDITIONS									,					
1. Operating temp		0~50°C,	100% load	d.										
2. Storage temp		-20~85°C												
3. Operating humidity				ondensir	na).									
4. Storage humidity				ondensir										
5. Vibration					e EUT is fi	xed to the	e vibratino	surface.						
6. Shock					mSec. Uni			, surracer						
7. Altitude		Operatin	g: 10000f	t (3000m)	, Derate o	utput curi	rent by 2%		ove 2000	m, Alterna	atively, de	rate maxin	num ambi	ent tem
					Non oper			00m).						
8. RoHS Compliance		Complies	with the	requirem	ents of Ro	HS direct	tive.							
2.4 EMC										-				
1.Applicable Standards:														
2.ESD				isch8KV	contact c	lisch4KV	/							
3.Fast transients		IEC1000-												
4.Surge immunity				ine to line	e, 2KV line	to groun	d							
5.Conducted immunity		IEC1000-												
6.Radiated immunity		IEC1000-										_		
7. Magnetic field immunity		EN61000		n										
8.Voltage dips		EN61000												
9.Conducted emission		EN55022												
10. Radiated emission		EN55022	A, FCC pa	rt 15-A, V	CCI-A.									
2.5 SAFETY														
1. Applicable standards:					950-1,IEC									
					put is SEL\ Monitorin			on/control	linterface	es (RS232/	485, IEEE,	Isolated A	Analog, LA	N, Sens
								unication	/control i	nterfaces	· RS232/49	RS IFFF Isc	olated Ana	alog I AN
2.Interface classification		Models with 60V Yout 400V: Output is Hazardous, communication/control interfaces: RS232/485, IEEE, Isolated Analog, LAN, Remote Programing and Monitoring (pins 1-3, pins14-16) are SELV, Sense, Remote Programming and Monitoring (pins 8-13, pins 21-25) are Hazardous.												
		<u>'</u>			OV: Outpu	t is Hazar	dous all c	ommunic	ation/con	trol inter	faces (RS2	32/485 IFI	FF. Isolato	d Analo
		Models with 400V <vout (rs232="" 485,="" 600v:="" all="" analog,="" and="" are="" communication="" control="" hazardous,="" hazardous.<="" ieee,="" interfaces="" is="" isolated="" lan,="" monitoring)="" output="" programming="" remote="" sense,="" td=""></vout>												
		Vout 50V models: Input-Output (SELV): 4242VDC 1min, Input-communication/control (SELV): 4242VDC 1min, Input-Ground: 2828VDC 1min,												
3. Withstand voltage		60V <vout (hazardous):="" (selv):="" 100v="" 1200vdc="" 1900vdc="" 1min,="" 1min,<="" 2600vdc="" 2828vdc="" 4242vdc="" control="" input-communication="" input-ground:="" input-output="" models:="" output(hazardous)-ground:="" output(hazardous)-selv:="" td=""></vout>												
		100V< Vout 600V models: Input-Output(Hazardous): 3550VDC 1min, Input-communication/control (SELV): 4242VDC 1min, Hazardous. Output-communication/control(SELV): 4242VDC 1min, Output(Hazardous)-Ground: 2670VDC 1min, Input-Ground: 2828VDC 1min.												
3.Insulation resistance					C , 70% RH									
2.6 MECHANICAL CONSTRUCTION														
1. Cooling		Forced ai	r flow: fro	m front t	o rear. No	ventilatio	n holes a	t the top o	or bottom	of the ch	assis; Vari	able fan sp	eed.	
2. Dimensions (WxHxD)		+			2.5mm (ex						.,			
3. Weight		13 kg.	,	,	(2/					, ,				
	``		ase,230V	models.	Power Cor	nbicon Po	C 6-16/3-0	F-10.16 se	eries, with	Strain rel	lief.			
4. AC Input connector (with Protective Cov	er)				ls, Power									
5.Output connectors		,										enix P/N:	FRONT-4-	H-7.62
2.7 RELIABILITY SPECS						,-					,			-
1. Warranty		5 years.										-		
		. ,												

1. Warranty
All specifications subject to change without notice.

**Laboratory Power Supplies: 3.3KW** 



#### **Genesys™ Power Parallel and Series Configurations**

and reported by the Master, Up to four supplies act as one.

#### 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

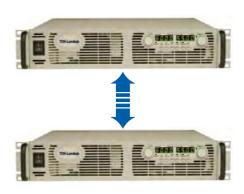


#### Series operation

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 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.



P/N:IEEE

#### **Programming Options (Factory installed)**

#### Digital Programming via IEEE Multi-Drop Interface

- Allows IEEE Master to control up to 30 slaves over RS-485 daisy-chain
- Only the Master needs be equipped with IEEE Interface
- IEEE 488.2 SCPI Compliant
- Program Voltage
- Measure Voltage
- Over Voltage setting and shutdown
- **Error and Status Messages**

- 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 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 0-5V or 0-10V signal. Power supply Voltage and Current Programming Accuracy ±1% Power supply Voltage and Current Monitoring Accuracy ±1.5%

· Current Programming with 4-20mA signal. Power supply Voltage and Current Programming Accuracy ±1% Power supply Voltage and Current Monitoring Accuracy ±1.5%

P/N: IS510

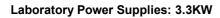
P/N: IS420

# LAN Interface Compliant to Class C

- Meets all LXI-C Requirements
- Address Viewable on Front Panel
- · Fixed and Dynamic Addressing
- Compatible with most standard Networks
- TCP / UDP Socket Programming

#### P/N: LAN

- VISA & SCPI Compatible
- LAN Fault Indicators
- Auto-detects LAN Cross-over Cable
- Fast Startup





### Power Supply Identification / Accessories How to order

GEN	8 -	400	<u>-                                      </u>	<u> </u>
			Factory Options:	Factory AC Input Options:
Series	Output	Output	Option: IEEE	1P230 (Single Phase 170~265VAC)
Name	Voltage	Current	IS510	3P208 (Three Phase 170~265VAC)
	(0~8V	(0~400A)	IS420	3P400 (Three Phase 342~460VAC)
			LAN	

#### Models 3.3kW

Model	Output Voltage VDC	Output Current ( A )	Output Power ( W )
GEN 8-400	0~8V	0~400	3200
GEN 10-330	0~10V	0~330	3300
GEN 15-220	0~15V	0~220	3300
GEN 20-165	0~20V	0~165	3300
GEN 30-110	0~30V	0~110	3300
GEN 40-85	0~40V	0~85	3400

Model	Output Voltage VDC	Output Current ( A )	Output Power (W)
GEN 60-55	0~60V	0~55	3300
GEN 80-42	0~80V	0~42	3360
GEN 100-33	0~100V	0~33	3300
GEN 150-22	0~150V	0~22	3300
GEN 200-16.5	0~200V	0~16.5	3300
GEN 300-11	0~300V	0~11	3300
GEN 600-5.5	0~600V	0~5.5	3300

#### **Factory option** P/N

RS-232/RS-485 Interface built-in Standard

**GPIB** Interface **IEEE** Voltage Programming Isolated Analog Interface IS510 Current Programming Isolated Analog Interface LAN Interface (Complies with Class C) **IS420** LAN

#### Accessories

#### 1. Serial Communication cable

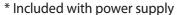
RS-232/RS-485 cable is used to connect the power supply to the Host PC.

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

#### 2. Serial link cable\*

Daisy-chain up to 31 Genesys<sup>™</sup> power supplies.

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



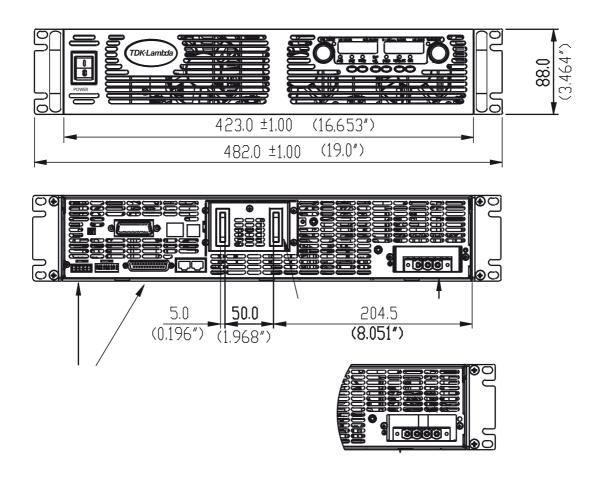


Also available, Genesys™ 1U Half Rack 750W 1U full Rack 750W/1500W/2400W 2U full Rack 5000W

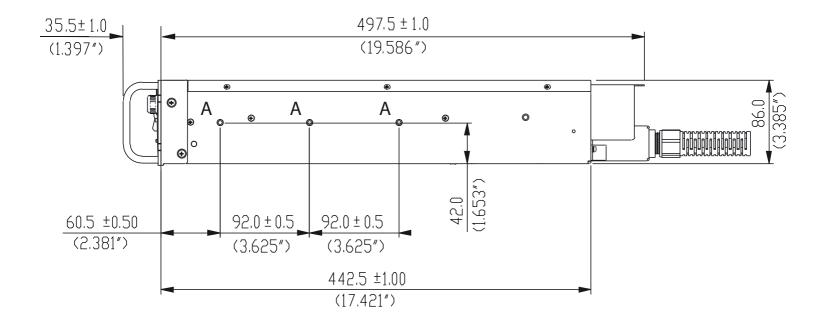


**Laboratory Power Supplies: 3.3KW** 

# Outline Drawing Genesys™ 3.3kW Units



**Laboratory Power Supplies: 3.3KW** 



#### **NOTE**

- 1. Bus bars for 8V to 100V models (shown) Wire clamp connector for 150V to 600V 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