

GENESYS G Series

Programmable DC Power Supplies Full-Rack 1.7kW/2.7kW/3.4kW/5kW in 1U Height

! Advanced Features Built-In!

 Arbitrary Waveform Generator with Auto-Trigger Capability Programmable Slew Rate Control (Vout/Iout) • Constant Power Limit Operation • Internal Resistance Programming • Built-In LAN (LXI 1.5), USB, and RS-232/RS-485 Interfaces • Built-In Remote Isolated Analog Interface

• Blank Front Panel Option Available





Helios Power Solutions is TDK Lambda Authorized Distributor







Features:

Leading DC Programmable power density 1.7kW, 2.4kW, 3.4kW & 5kW in 1U rack
Light-weight 5kW<7.5 kg
Wide Range of popular worldwide AC inputs:
G1.7kW: 1ø (85~265VAC)
G2.7kW / G3.4kW: 1ø (170~265VAC), 3ø (208VAC, 400VAC)
G5kW: 3ø (208VAC, 400VAC & 480VAC), Wide-range 3ø 480VAC (342VAC ~ 528VAC)
Active three-phase PFC (0.94 typical)
Output Voltage up to 600V, Current up to 500A
Built-in LAN (1.5), USB, RS-232/RS-485 Interface
Constant Voltage/Constant Current operation modes Internal Resistance Programming Simulation
Scalable Power Systems up to 20kW
Protection functions (OVP, UVP, UVL, FOLD (CV/CC), OCL, OTP, AC FAIL)

- AC FAIL)
 Certified LabWindows™/CVI, LabVIEW™, and IVI Drivers
- **Optional IEEE Interface**

Series Table 1.7kW Models

Model	Output Voltage (VDC)	Output Current (A)	Output Power (W)
G10-170	0~10V	0~170	1700
G20-85	0~20V	0~85	1700
G30-56	0~30V	0~56	1680
G40-42	0~40V	0~42	1680
G60-28	0~60V	0~28	1680
G80-21	0~80V	0~21	1680
G100-17	0~100V	0~17	1700
G150-			
11.2	0~150V	0~11.2	1680
G300-5.6	0~300V	0~5.6	1680
G600-2.8	0~600V	0~2.8	1680

Series Table 2.7kW Models

Model	Output Voltage (VDC)	Output Cur- rent (A)	Output Power (W)
G10-265	0~10V	0~265	2650
G20-135	0~20V	0~135	2700
G30-90	0~30V	0~90	2700
G40-68	0~40V	0~68	2720
G60-45	0~60V	0~45	2700
G80-34	0~80V	0~34	2720
G100-27	0~100V	0~27	2700
G150-18	0~150V	0~18	2700
G300-9	0~300V	0~9	2700
G600-4.5	0~600V	0~4.5	2700

Series Table 3.4kW Models

Model	Output Voltage (VDC)	Output Current (A)	Output Power (W)
G10-340	0~10V	0~340	3400
G20-170	0~20V	0~170	3400
G30-112	0~30V	0~112	3360
G40-85	0~40V	0~85	3400
G60-56	0~60V	0~56	3360
G80-42	0~80V	0~42	3360
G100-34	0~100V	0~34	3400
G150-22.5	0~150V	0~22.5	3375
G300-11.5	0~300V	0~11.5	3450
G600-5.6	0~600V	0~5.6	3360

Series Table 5kW Models

Model	Output Voltage (VDC)	Output Current (A)	Output Power (W)
G10-500	0~10V	0~500	5000
G20-250	0~20V	0~250	5000
G30-170	0~30V	0~170	5100
G40-125	0~40V	0~125	5000
G60-85	0~60V	0~85	5100
G80-65	0~80V	0~65	5200
G100-50	0~100V	0~50	5000
G150-34	0~150V	0~34	5100
G200-25	0~200V	0~25	5000
G300-17	0~300V	0~17	5100
G600-8.5	0~600V	0~8.5	5100

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1U Lab Variable DC Power Supply 1.7kW - 5kW



G1.7kW-5kW Front Panel Description



- 1. Input Power ON/OFF Switch
- 2. Air Intake allows zero stacking for maximum system flexibility and power density.
- 3. Reliable Detent Encoders for settings and Menu navigation.
- 4. High Contrast/Brightness display with wide viewing angle, 16 segment LCD
- 5. Function/Status LEDs: Active modes and function indicators
- 6. Pushbuttons allow flexible user configuration

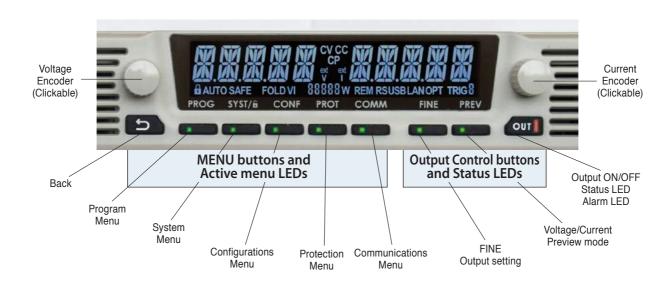
G1.7kW-5kW Rear Panel Description



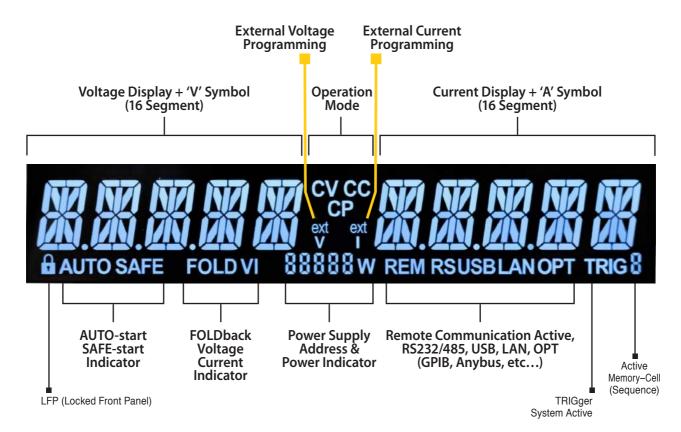
- 1. Isolated Analog Programming, Monitoring and other control connector (DB26 Female)
- 2. USB Interface connector (Type B).
- 3. RS-232/RS-485 IN/OUT Remote Digital Interface (RJ-45 type) for Multi-Drop connection
- 4. LAN (LXI 1.5) Interface connector (RJ-45 type with LAN status indicators).
- 5. Auto paralleling Bus connectors (mini I/O type) for connecting Master unit-to-Slave and slave unit-to-slave unit.
- 6. Remote/Local Output Voltage Sense Connections (spring cage).
- 7. Output Connections: Rugged busbars (shown) for models up to and including 100V Output; Plug connector: PHOENIX CONTACT IPC 5/4-STF-7.62 for models with Outputs >100V.
- 8. G2.7kW / G3.4kW / G5kW AC Input: 208VAC, 400VAC & 480VAC, Three Phase, 50/60 Hz. (Model shown) AC Input Plug Connector: PHOENIX CONTACT Power Combicon PC 5/4-STCL1-7.62 Series with strain relief. G1.7kW / G2.7kW / G3.4kW AC Input Single Phase, 50/60 Hz. AC Input Plug Connector: PHOENIX CONTACT Power Combicon PC 5/3-STCL1-7.62 Series with strain relief.
- 9. Optional Interface Position for IEEE 488.2 SCPI or AnyBus Interface.
- 10. Exhaust air assures reliable operation when units are zero stacked.
- 11. Functional Ground connection (M4x8mm stud).
- 12. Reset button. Set default Power Supply settings.



Front Panel Display MENU/CONTROL buttons:



Front Panel Display indicators





OUT (LED)





A Blank Front Panel is available for applications where the front panel display and controls are not required and only remote interface (Digital/Analog) is needed.

The Blank Front Panel option has all the standard product functions and features except the display.

The power supply can be controlled via the rear panel Remote digital interface

(LAN, USB, RS-232/RS-485) or via the remote Isolated Analog interface.

GENESYS™ Parallel and Series Configurations

Parallel operation - Master/Slave:

Auto paralleling Scalable Master-Slave Operation. Active current sharing allows up to six identical units to be connected

Total real current is programmed measured and reported by the Master. Up to six supplies operate as one.

Separates Parallel Kit available for 30kW (6 unit) systems allowing easy system setup.

Order P/N: G/P - 6U

Standard Unit - zero stacked up to 6 units 1000-5000 Standard & Blank - zero stacked up to 6 units

Series operation

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

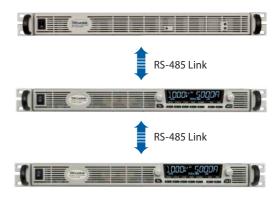
Multi-Drop Remote Programming via Communication Interface

Standard Built-in LAN, USB, RS-232 & RS-485 allows "Multi-Drop" daisy-chain control of up to 31 Power supplies on the same communication bus. Can be Daisy chained via built-in RS-485 Interface.

- First unit is LAN, USB, RS-232, RS-485, etc.
- All other units use RS-485 daisy chain with linking cable.







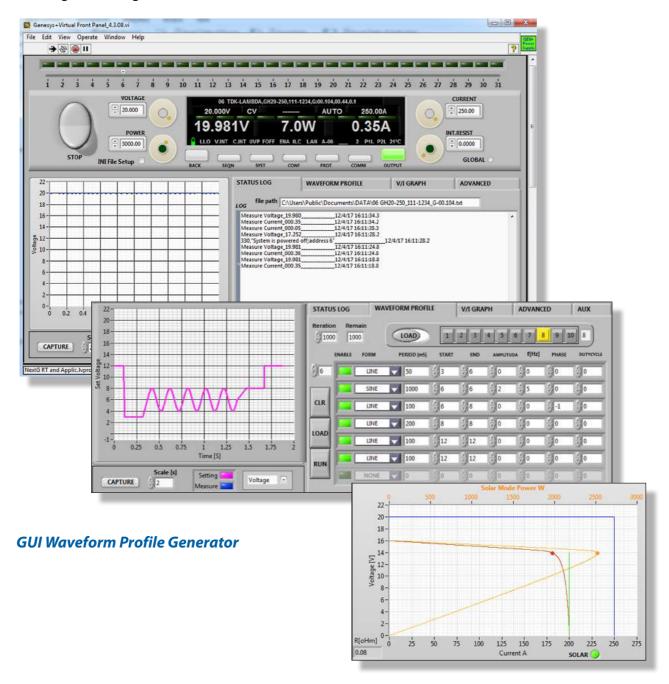
1U Lab Variable DC Power Supply 1.7kW - 5kW



Graphical User Interface

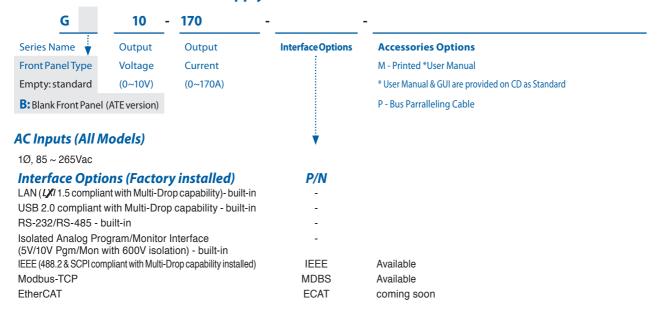
Advanced "Virtual Front Panel" allows programming and monitoring unit(s) with or without front panel display.

- 1. Control and monitor up-to 31 units with "Address" bar
- 2. Front panel set-up menu control (PROGram, SYSTem, CONFiguration, PROTection and COMMnication)
- 3. Informative "Parameters" status bar
- 4. Individual unit and Global command control
- 5. Data logging including errors, events and recovery
- 6. Realtime Graph and Waveform creator, store/load sequence.
- 7. Solar array mode calculate MPP (Max Peak Power) for solar array.
- 8. Registers View: Operation Status, Fault, Event Status, ENABLE and INTERLOCK signals.
- 9. Remote communication state LOC, REM, LLO.
- 10. Programmed signals 1&2





How to order G1.7kW - Power Supply Identification / Accessories



Models 1.7kW

Model	Output Voltage VDC	Output Current (A)	Output Power (W)	Model	Output Voltage VDC	Output Current (A)	Output Power (W)
G10-170	0~10V	0~170	1700	G80-21	0~80V	0~21	1680
G20-85	0~20V	0~85	1700	G100-17	0~100V	0~17	1700
G30-56	0~30V	0~56	1680	G150-11.2	0~150V	0~11.2	1680
G40-42	0~40V	0~42	1680	G300-5.6	0~300V	0~5.6	1680
G60-28	0~60V	0~28	1680	G600-2.8	0~600V	0~2.8	1680

Accessories

Accessories will be sent separatly from the Power Supply packing, according to order.

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
PC Connector	DB-9F	DB-9F
Communication Cable	Shielded L=2m	Shielded L=2m
Power Supply Connector	RJ-45	RJ-45
P/N	GEN/485-9	GEN/232-9

2. Serial link cable (Included with the power supply)

Daisy-chain up to 31 **G**ENESYS[™] power supplies.

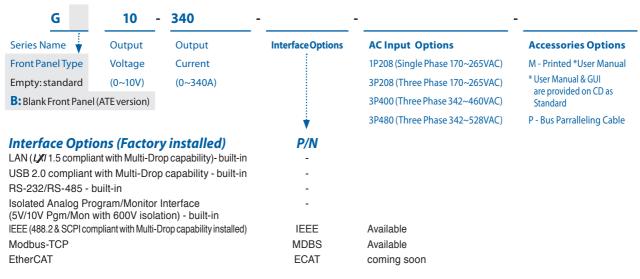
Mode	Power Supply Connector	Communication Cable	P/N
RS-485	RJ-45	Shielded L=50cm	GEN/RJ45

3. Bus Paralleling cable

Connectors	Cables	P/N	
2013595-1 (TYCO)	Shielded L=11cm	G/P	
4. User Manual			
Printed User Manual		G/M	



How to order G2.7kW/3.4kW - Power Supply Identification / Accessories



Models G2.7kW

Model	Output Voltage VDC	Output Current (A)	Output Power (W)	Model	Output Voltage VDC	Output Current (A)	Output Power (W)
G10-265	0~10V	0~265	2650	G80-34	0~80V	0~34	2720
G20-135	0~20V	0~135	2700	G100-27	0~100V	0~27	2700
G30-90	0~30V	0~90	2700	G150-18	0~150V	0~18	2700
G40-68	0~40V	0~68	2720	G300-9	0~300V	0~9	2700
G60-45	0~60V	0~45	2700	G600-4.5	0~600V	0~4.5	2700

Models G3.4kW

Model	Output Voltage VDC	Output Current (A)	Output Power (W)	Model	Output Voltage VDC	Output Current (A)	Output Power (W)
G10-340	0~10V	0~340	3400	G80-42	0~80V	0~42	3360
G20-170	0~20V	0~170	3400	G100-34	0~100V	0~34	3400
G30-112	0~30V	0~112	3360	G150-22.5	0~150V	0~22.5	3375
G40-85	0~40V	0~85	3400	G300-11.5	0~300V	0~11.5	3450
G60-56	0~60V	0~56	3360	G600-5.6	0~600V	0~5.6	3360

Accessories

Accessories will be sent separatly from the Power Supply packing, according to order.

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
PC Connector, Communication Cable, Power Supply Connector	DB-9F. Shielded L=2m. RJ-45	DB-9F. Shielded L=2m, RJ-45
P/N	GEN/485-9	GEN/232-9

2. Serial link cable (Included with the power supply)

Daisy-chain up to 31 GENESYS[™] power supplies.

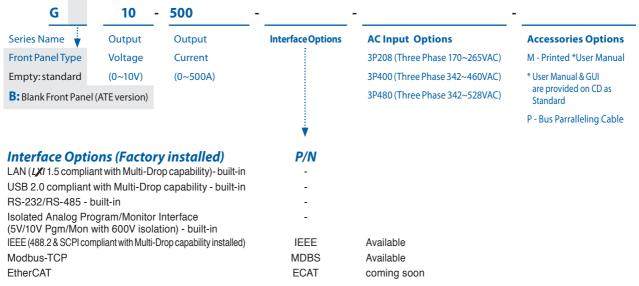
Mode	Power Supply Connector	Communication Cable	P/N
RS-485	RJ-45	Shielded L=50cm	GEN/RJ45

3. Bus Paralleling cable

Connectors	Cables	P/N
2013595-1 (TYCO)	Shielded L=11cm	G/P
4. User Manual		
Printed User Manual		G/M



How to order G5kW - Power Supply Identification / Accessories



Models 5kW

Model	Output Voltage VDC	Output Current (A)	Output Power (W)	Model	Output Voltage VDC	Output Current (A)	Output Power (W)
G10-500	0~10V	0~500	5000	G80-65	0~80V	0~65	5200
G20-250	0~20V	0~250	5000	G100-50	0~100V	0~50	5000
G30-170	0~30V	0~170	5100	G150-34	0~150V	0~34	5100
G40-125	0~40V	0~125	5000	G200-25	0~200V	0~25	5000
G60-85	0~60V	0~85	5100	G300-17	0~300V	0~17	5100
				G600-8.5	0~600V	0~8.5	5100

Accessories

Accessories will be sent separatly from the Power Supply packing, according to order.

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
PC Connector Communication Cable Power Supply Connector	DB-9F Shielded L=2m RJ-45	DB-9F Shielded L=2m RJ-45
P/N	GEN/485-9	GEN/232-9

2. Serial link cable (Included with the power supply)

Daisy-chain up to 31 GENESYS[™] power supplies.

Mode	Power Supply Connector	Communication Cable	P/N
RS-485	RJ-45	Shielded L=50cm	GEN/RJ45

3. Bus Paralleling cable

Connectors	Cables	P/N	
2013595-1 (TYCO)	Shielded L=11cm	G/P	
4. User Manual		·	
Printed User Manual		G/M	

5. Parallel Kit: 20kW/30kW

G/P-4U: BusBar Parallel Kit for 20 kW operation (5kW Models where Vout up to 100V)

G/P-6U: BusBar Parallel Kit for 30 kW operation (5kW Models where Vout up to 100V)

1U Lab Variable DC Power Supply 1.7kW - 5kW



GENESYS™ 1.7kW SERIES SPECIFICATIONS

OUTPUT RATING		G	10-170	20-85	30-56	40-42	60-28	80-21	100-17	150-11.2	300-5.6	600-2.8
1.Rated output voltage(*1)		V	10	20	30	40	60	80	100	150	300	600
2.Rated output current (*2) 3.Rated output power		A W	170 1700	85 1700	56 1680	42 1680	28 1680	21 1680	17 1700	11.2 1680	5.6 1680	2.8 1680
• •		-										
INPUT CHARACTERISTICS 1.Input voltage/freq. (*3)		V	10 85~265Vac, c	20	30	Haco	60	80	100	150	300	600
2. Maximum Input current at 100	% load (100/200)	A	20/10	ontinuous, 47	~65HZ,3IIIGIE	riiase						
3.Power Factor (Typ)	70 Toda (100) 200)			c 0.98 @ 200	Vac, rated out	put power.						
4.Efficiency at 100 Vac/200Vac, ra	ted output (*19)	%	86/88	87/89	87/89	87/89	87/89	87/89	88/90	88/90	88/90	88/90
5.Inrush current (*5)		A	Less than 50/	A	-	-						
CONSTANT VOLTAGE MODE		٧	10	20	30	40	60	80	100	150	300	600
1.Max. Line regulation (*6)			0.01% of rate	d output volta	age							
2.Max. Load regulation (*7)				d output volta								
3.Ripple and noise (p-p, 20MHz) ((*8)	mV	50	50	50	60	60	75	75	75	120	500
4.Ripple r.m.s. 5Hz~1MHz (*8)		mV	6	6	6	7	. 7	10	12	8	20	100
5.Temperature coefficient		PPM/°C				lowing 30 min			- 110 4			
6.Temperature stability 7. Warm-up drift						lowing 30 min +2mV over 30 r				D		
8.Remote sense compensation/w	iro (*10)	V	1	1 1	5	5	5	5	5	5	5	5
9.Up-prog. Response time (*11)	ire (* 10)	mS	20	20	20	20	20	20	25	50	100	100
5.0p-prog. nesponse time (11)	Full load (*12)	mS	30	30	60	60	60	60	60	120	220	200
10.Down-prog.response time:	No load (*12)	mS	450	700	1000	1200	1500	1700	2600	2900	4600	4600
11 Transient	1000 (12)					n 0.5% of its ra						
11.Transient response time		mS	10~100%, Lo	cal sense. Less	than 1mS, fo	r models up to	and includin	g 100V. 2mS, fo	or models abo	ve 100V.		
12.Hold-up time		mS				161	ms typical, ra	ted output po	wer			
CONSTANT CURRENT MODE		V	10	20	30	40	60	80	100	150	300	600
1.Max. Line regulation (*6)			0.01% of rate	d output curre	ent. +2mA							
2.Max. Load regulation (*9)			0.02% of rate	d output curr	ent. +5mA							
3.Ripple r.m.s. @ rated voltage. B.\	W 5Hz~1MHz. (*13)	mA	≤400	≤160	≤100	≤60	≤50	≤30	≤30	≤10	≤8	≤5
5.Temperature coefficient		PPM/°C				out current, fol						
5.Temperature coefficient		111W/ C				ut current, follo						
6.Temperature stability						lowing 30 min		-				
7. Warm-up drift						ated output c				n.		
			150V~600V: l	Less than +/-0	.15% of rated	output current	over 30 minu	ites following	power on.			
ANALOG PROGRAMMING AND N	MONITORING (ISOLATED	FROM T	HE OUTPUT)									
1.Vout voltage programming			0~100%, 0~5	V or 0~10V, us	ser selectable.	Accuracy and	linearity: +/-0	0.15% of rated	Vout.			
2.lout voltage programming (*14)		0~100%, 0~5	V or 0~10V, us	ser selectable.	Accuracy and	linearity: +/-0	0.4% of rated lo	out.			
3.Vout resistor programming			0~100%, 0~5	/10Kohm full	scale, user sel	ectable. Accura	acy and linea	rity: +/-0.5% of	frated Vout.			
4.lout resistor programming (*14)		0~100%, 0~5	/10Kohm full	scale, user sel	ectable. Accur	acy and linea	rity: +/-0.5% of	frated lout.			
5.Output voltage monitor					able. Accuracy							
6.Output current monitor (*14)			0~5V or 0~10	V, user selecta	able. Accuracy	/: +/-0.5%.						
SIGNALS AND CONTROLS (ISOLA	ATED FROM THE OUTPU	T)										
1. Power supply OK #1 signal			Power supply	y output moni	tor. Open coll	ector. Output	On: On. Outp	ut Off: Off. Ma:	ximum Voltag	e: 30V, Maxim	um Sink Curre	nt: 10mA.
2. CV/CC signal			CV/CC Monite	or. Open colle	ctor. CC mode	: On. CV mode	: Off. Maximu	ım Voltage: 30	V, Maximum S	ink Current: 1	0mA.	
3. LOCAL/REMOTE Analog contro	<u> </u>					ntrol by electri			-			
4. LOCAL/REMOTE Analog signal			31 3			nal. Open colle						rrent: 10mA.
5. ENABLE/DISABLE signal						gnal or dry cor					ogic.	
6. INTERLOCK (ILC) control						gnal or dry cor						
7. Programmed signals						Maximum volta						F14 ::
8. TRIGGER IN / TRIGGER OUT sign	als		Maximum lo	ow level inpur: r: tw=10us m	ut voltage = (ninimum Tr l	0.8V,Minimur Tf=1us Maxim	n high level ium. Min de	input voltag	e = 2.5V, Max 2 pulses 1ms	kımum high l s.	evel input =	5V positive
9. DAISY_IN/SO control signal			By electrical				, .viiii de	, Servicell	_ paises iilis			
10. DAISY_OUT/PS_OK #2 signal			_	/ (500ohm imp		,						
					-,							
FUNCTIONS AND FEATURES 1. Parallel operation			Possible II-	to Aidontics!	unite in Master	r/Clavo mod - 1	Pofor to inst	iction mani				
			·			r/Slave mode. I truction manu		action manual				
2. Series operation						truction manu sy chain to syn		rturn co and	turn off			
Daisy chain Constant power control						ned value. Proc				or the front no	nel	
5. Output resistance control						nge: 1~1000m						
·						all slew rate. Pi						/ia the
6. Slew rate control			communicati	ion ports or th	e front panel.							
7. Arbitrary waveforms			Profiles of up	to 100 steps	can be stored	in 4 memory c	ells. Activatio	n by comman	d via the comr	munication po	rts or by the f	ont panel.
PROGRAMMING AND READBA RS232/485, Optional IEEE (*18	ACK (USB, LAN, i) Interfaces)	V	10	20	30	40	60	80	100	150	300	600
1.Vout programming accuracy (*1			0.05% of rate	d output volta	age							
2.lout programming accuracy (*1	4)		0.1% of actua	l output curre	nt+0.2% of ra	ted output cur	rent					
3. Vout programming resolution			0.002% of rat	ed output vol	tage							
4.lout programming resolution			0.002% of rat	ed output cur	rent							
5.Vout readback accuracy				ed output volt								
6.lout readback accuracy (*14)			0.2% of rated	output curre	nt							
7.Vout readback resolution (of rat		%	0.011%	0.006%	0.004%	0.003%	0.002%	0.002%	0.011%	0.007%	0.004%	0.002%
8.lout readback resolution (of rat	ed output current))	%	0.007%	0.002%	0.003%	0.003%	0.005%	0.006%	0.007%	0.010%	0.003%	0.004`%

1U Lab Variable DC Power Supply 1.7kW - 5kW



GENESYS™ 1.7kW SERIES SPECIFICATIONS

PROTECTIVE FUNCTIONS		V	10	20	30	40	60	80	100	150	300	600
1. Foldback protection			Output shut- User presetal	down when pole. Reset by A	ower supply c	hanges mode le in autostart	from CV or P mode, by Po	ower Limit to wer Switch, by	CC mode or fro	om CC or Pow	er Limit to CV nel or by com	mode. munication.
2.Over-voltage protection (OVP)			Output shut-	down. Reset b	y AC input red	ycle in autost	art mode, by	OUTPUT butto	on, by rear par	nel or by comr	nunication.	
3.Over -voltage programming rar	ige	V	0.5~12	1~24	2~36	2~44.1	5~66.15	5~88.2	5~110.25	5~165.37	5~330.75	5~661.5
4. Over-voltage programming acc	uracy		+/-1% of rate	d output volta	ige							
5.Output under voltage limit (UVI	_)		Prevents fron	n adjusting Vo	out below limi	t. Does not ap	oly in analog	programming	. Preset by fro	nt panel or co	mmunication	port.
6.Over temperature protection			Shuts down t	he output. Au	ito recovery by	y autostart mo	de.					
7. Output under voltage limit (UV	L)		Prevents adju	istment of Voi	ut below limit							
8. Output under voltage protection	on (UVP)		Prevents adjumode, by Pov	ıstment of Vo ver Switch, by	ut below limit OUTPUT butt	P.S output tu on, by rear pa	rns Off during nel or by com	g under voltag imunication.	je condition. F	leset by AC inp	out recycle in	autostart
FRONT PANEL												
1.Control functions	-		Multiple opti	ons with 2 End	coders					-		
				wer Limit mar								
				P manual adju								
	-					dback, OCL, EI	VA. ILC			-		
						LAN,IEEE,RS2		or Optional c	ommunicatio	n interface.		
				FF. Front Pane		.,,02.	,,					
						Baud Rate, Ad	dress. IP and	communication	on language			
						tage/resistive				nina		
						Voltage/Curre			rontprogramm	9		
2.Display						utput voltage		9 5 47 10 4.				
2.0.156.147						put current +/						
3.Front Panel Buttons Indications								N CONFIGURA	ATION SYSTEM	A SEQUENCES	2	
4. Front Panel Display Indications			OUTPUT ON, ALARM, PREVIEW, FINE, COMMUNICATION, PROTECTION, CONFIGURATION, SYSTEM, SEQUENCER. Voltage, Current, Power, CV, CC, CP, External Voltage, External Current, Address, LFP, Autostart, Safetstart, Foldback V/I, Re (communication), RS/USB/LAN/IEEE communication, Trigger, Load/Store Cell.									note
. ,			(communicat	ion), K5/USB/I	LAN/IEEE COM	munication, ii	rigger, Load/:	Store Cell.				
ENVIRONMENTAL CONDITIONS												
1.Operating temperature			0~50°C, 1009	6 load.								
2.Storage temperature			-30~85°C									
3.Operating humidity		%	20~90% RH (no condensati	ion).							
4.Storage humidity		%	10~95% RH (r	no condensati	ion)							
5.Altitude (*16)						ent derating 29	%/100m or Ta	derating 1°C/	100m ahove 2	000m Non on	erating: 4000	0ft (12000m)
			Toperating, ic	700011 (300011)	i, output curre	ant derating 2	70/10011101110	derating i c/	TOOTH ADOVE 2		erating. 4000	011 (12000111).
MECHANICAL			E 1.	P. 1. 1. 1	16 4: 6	1: .: 6		1.				
1.Cooling					nal fans. Air flo	w direction: fi	rom Front pa	nel to power s	upply rear			
2.Weight		kg	Less than 5kg									
3.Dimensions (WxHxD)		mm				isbars and bu ousbars and b			Outline draw	ing).		
4.Vibration			MIL-810G, me	thod 514.6, P	rocedure I, tes	t condition Ar	nex C - 2.1.3.	1				
5.Shock			Less than 200	, half sine, 11	mSec. Unit is ι	ınpacked.						
SAFETY/EMC												
1. Applicable standards:	Safety		UL60950-1, C	SA22.2 No.60	950-1, IEC6095	0-1, EN60950	-1.					
1.1. Interface classification			Vout ≤40V M 60≤ Vout≤ 6	odels: Output 00V Models: 0	, J1,J2,J3,J4,J5 Output, J8 (ser	,J6,J7,J8 (sensense) are hazaro	and ,J9 (cor lous, J1,J2,J3,	mmunication of J4,J5,J6,J7 and	options) are SI	ELV. ication option	s) are SELV	
1.2 Withstand voltage			60V≤Vout≤1 Output - Gro 100 <vout≤6< td=""><td>00V Models: und: 1500VD 00V Models:</td><td>Input - Outpu C 1min, Inpu Input - Outpu</td><td>LV): 4242VDC at: 4242VDC at - Ground: 2 at: 4242VDC at - Ground: 2</td><td>1min, Input - 835VDC 1m 1min, Input -</td><td>SELV: 4242\ in. SELV: 4242\</td><td>/DC 1min, O</td><td>utput - SELV:</td><td></td><td></td></vout≤6<>	00V Models: und: 1500VD 00V Models:	Input - Outpu C 1min, Inpu Input - Outpu	LV): 4242VDC at: 4242VDC at - Ground: 2 at: 4242VDC at - Ground: 2	1min, Input - 835VDC 1m 1min, Input -	SELV: 4242\ in. SELV: 4242\	/DC 1min, O	utput - SELV:		
1.3 Insulation resistance			100Mohm at	25°C, 70%RH.								
2.Conducted emmision					nvironment A	nnex H table I	H 1 FCC Dart	15-A VCCI-A				
									VCCL A			
3.Radiated emission						nnex H table I	ana #4, F د.¬	CC Part 15-A,	vcci-A			
4. EMC compliance	EMC(*17)		According to	IEC/EN61204-	3 Industrial er	nvironment						

- | Lember | L



GENESYS™ 2.7kW SERIES SPECIFICATIONS

OUTPUT RATING		G	10-265	20-135	30-90	40-68	60-45	80-34	100-27	150-18	300-9	600-4.5
1.Rated output voltage(*1)		٧	10	20	30	40	60	80	100	150	300	600
2.Rated output current (*2)		A W	265	135 2700	90 2700	68	45	34	27	18	9	4.5 2700
3.Rated output power			2650			2720	2700	2720	2700	2700	2700	
INPUT CHARACTERISTICS		V	10	20	30	40	60	80	100	150	300	600
1.Input voltage/freq. 3 phase, 3 v 2. Maximum Input current at	3-Phase, 200V models: 3-Phase, 400V models:		3-Phase, 400 3-Phase, 480 1-Phase, 200 10A @ 200Vac 5.5A @ 380Va	V models: 342 V models: 342 V models: 170 c	~265Vac, 47~ ~460Vac, 47~ ~528Vac, 47~ ~265Vac, 47~	63Hz (Covers 63Hz (Covers :	380/400/415\ 380/400/415/4	40/460/480V	ac)			
100% load	3-Phase, 480V models:		5.5A @ 380Va									
	1-Phase, 200V models:		16A @ 200Va		0Vac, rated or	itput power.						
3.Power Factor (Typ)					, rated outpu							
4.Efficiency (Typ) (*5) (*22)		%	88	89	89.5	90	90	90.5	90.5	90.5	90.5	90.5
5.Inrush current (*6)		Α	Less than 50A									
CONSTANT VOLTAGE MODE		V	10	20	30	40	60	80	100	150	300	600
1.Max. Line regulation (*7) 2.Max. Load regulation (*8)			0.01% of rate 0.01% of rate		-							
3.Ripple and noise (p-p, 20MHz)	(*9)	mV	75	75	75	75	80	80	100	120	200	480
4.Ripple r.m.s. 5Hz~1MHz (*9)	()	mV	8	10	10	12	12	15	15	20	60	100
5.Temperature coefficient		PPM/°C	50PPM/°C fro	m rated outp	ut voltage, fo	lowing 30 mii	nutes warm-u	p.				
6.Temperature stability			0.01% of rate	d Vout over 8	hrs interval fo	llowing 30 mi	nutes warm-u	p. Constant li	ne, load & tem	ıp.		
7. Warm-up drift			Less than 0.0	5% of rated o	utput voltage	+2mV over 30	minutes follo	wing power o	n.			
8.Remote sense compensation/v	vire (*10)	V	2	2	5	5	5	5	5	5	5	5
9.Up-prog. Response time (*11)	E III 10340	mS	30	30	30	30	50	50	50	50	50	100
10.Down-prog.response time:	Full load (*11)	mS c	50	50	80	80	80	100	100	100	100	200
	No load (*12)	mS	450 Time for outr	000 out voltage to	800 recover withi	900 n 0.5% of its ra	1100 ated output fo	1300 or a load chan	2100 ge 10~90% of	2000 rated output	3000 current. Outp	3000 ut set-point:
11.Transient response time		mS	10~100%, Lo	cal sense. Les	s than 1mS, fo	r models up to	and includin	g 100V. 2mS,	for models ab	ove 100V.	current. Outp	ut set-point.
12.Start up delay		Sec	Less than 6 Se	ec								
CONSTANT CURRENT MODE		٧	10	20	30	40	60	80	100	150	300	600
1.Max. Line regulation (*7)			0.05% of rate	d output curr	ent.							
2.Max. Load regulation (*13)												
3.Ripple r.m.s. @ rated voltage. 3		mA	≤800	≤450	≤300	≤150	≤100	≤70	≤45	≤30	≤12	≤5
4.Ripple r.m.s. @ rated voltage. 1	-Phase (*14)	mA	≤1200	≤600	≤300	≤300	≤200	≤100	≤60	≤40	≤12	≤8
5.Temperature coefficient		PPM/°C			om rated outp							
6.Temperature stability									p. ne, load & tem	nerature		
o.remperature stability									owing power			
7. Warm-up drift					.15% of rated							
ANALOG PROGRAMMING AND	MONITODING (ISOLATER	EDOM 1						-				
1.Vout voltage programming	WIONITONING (ISOLATEL		1	V or 0~10V. us	ser selectable.	Accuracy and	l linearity: +/-	0.15% of rated	Vout.			
2.lout voltage programming (*1.	5)				ser selectable.							
3.Vout resistor programming					scale, user sel							
4.lout resistor programming (*15	5)		0~100%, 0~5	/10Kohm full	scale, user sel	ectable. Accui	racy and linea	rity: +/-0.5% c	of rated lout.			
5.Output voltage monitor					able. Accuracy							
6.Output current monitor (*15)			0~5V or 0~10	V, user select	able. Accuracy	/: +/-0.5%.						
SIGNALS AND CONTROLS (ISOL	ATED FROM THE OUTPU	T)										
1. Power supply OK #1 signal											num Sink Curr	ent: 10mA.
2. CV/CC signal									0V, Maximum			
3. LOCAL/REMOTE Analog contro											al: 2~30V or o	
4. LOCAL/REMOTE Analog signal 5. ENABLE/DISABLE signal	'								. Maximum Vo 0V or open. Us		kimum Sink Cu logic	rrent: IUMA.
6. INTERLOCK (ILC) control					,	, ,			nort. Local: 2~		logic.	
7. Programmed signals					-				rrent 100mA ('V zener)	
8. TRIGGER IN / TRIGGER OUT sig	nals		Maximum lo	ow level inpu	ut voltage =	0.8V,Minimu	m high level	input voltad	ge = 2.5V, Ma	ximum high	level input =	5V positive
	11413		edge trigge	r: tw=10us n	ninimum. Tr,	Tf=1us Maxir	num, Min de	lay betweer	2 pulses 1m	s.		
9. DAISY_IN/SO control signal			•		5V/2~30V or d	•						
10. DAISY_OUT/PS_OK #2 signal			4~5V=UK, 0V	(SUUONM IM)	oedance)=Fail							
FUNCTIONS AND FEATURES						101	2.6					
1. Parallel operation					units in Maste ts. Refer to ins			uction manua	ıl.			
Series operation Daisy chain					nected in Dai:			ir turn-on and	turn-off			
4. Constant power control									nication ports	or the front n	anel.	
5. Output resistance control					. 55		 		ommunication			
6. Slew rate control			Programmab	le Output rise	and Output f						Programming	via the
					ne front panel	in 4 mc	solls A -+:	n h., e	nd via +!		oute ou level	front n = 1
7. Arbitrary waveforms			rromes of up	to Tou steps	can be stored	ııı 4 memory (Lens. Activatio	ni by commar	iu via the com	inunication p	orts or by the	iront panei.
PROGRAMMING AND READB RS232/485, Optional IEEE(*19		٧	10	20	30	40	60	80	100	150	300	600
1.Vout programming accuracy (*			0.05% of rate	d output volt	age							
2.lout programming accuracy (*					ent+0.2% of ra	ted output cu	irrent		-			
3.Vout programming resolution			0.002% of rat									
4.lout programming resolution			0.002% of rat									
5.Vout readback accuracy			0.05% of rate									
6.lout readback accuracy (*15)			0.2% of rated							T -		
7.Vout readback resolution (of ra	ated output voltage)	%	0.011%	0.006%	0.004%	0.003%	0.002%	0.002%	0.011%	0.007%	0.004%	0.002%
8.lout readback resolution (of ra		%	0.005%	0.008%	0.002%	0.002%				0.007%	0.002%	



GENESYS™ 3.4kW SERIES SPECIFICATIONS

OUTPUT RATING		G	10-340	20-170	30-112	40-85	60-56	80-42	100-34	150-22.5	300-11.5	600-5.6
1.Rated output voltage(*1) 2.Rated output current (*2)		V A	10 340 (*3)	20 170	30 112	40 85	60 56	80 42	100 34	150 22.5	300 11.5	600 5.6
3.Rated output power		W	3400	3400	3360	3400	3360	3360	3400	3375	3450	3360
		V	,								1	
INPUT CHARACTERISTICS		V	10 3-Phase 200	20 V models: 170	30 ~265Vac, 47~	63Hz (Covers	60 200/230Vac)	80	100	150	300	600
1.Input voltage/freq. 3 phase, 3 w	ire + Ground (*4)		3-Phase, 400	V models: 342	~460Vac, 47~	63Hz (Covers	380/400/415\ 380/400/415/		ac)			
							200/208/230/2					
	3-Phase, 200V models:		12.5A @ 200V									
2. Maximum Input current at 100% load	3-Phase, 400V models:		6.5A @ 380Va									
100% 1040	3-Phase, 480V models: 1-Phase, 200V models:		6.5A @ 380Va 21A @ 200Va									
	T Thase, 2007 models.				30Vac, rated or	utput power.						
3.Power Factor (Typ)					, rated outpu							
4.Efficiency (Typ) (*5) (*22)		%	88	89	89.5	90	90	90.5	90.5	90.5	90.5	90.5
5.Inrush current (*6)		Α	Less than 50/	4								
CONSTANT VOLTAGE MODE		٧	10	20	30	40	60	80	100	150	300	600
1.Max. Line regulation (*7)			0.01% of rate	d output volt	age							
2.Max. Load regulation (*8)			0.01% of rate									
3.Ripple and noise (p-p, 20MHz) (*9)	mV	75	75	75	75	80	80	100	120	200	480
4.Ripple r.m.s. 5Hz~1MHz (*9)		mV	8	10	10	12	12	15	15	20	60	100
5.Temperature coefficient		PPM/°C					nutes warm-u					
6.Temperature stability							nutes warm-u		-	ıp.		
7. Warm-up drift	. (*10)					1	minutes follo			_	_	_
8.Remote sense compensation/w	ire (*10)	V	2	2	5	5	5	5	5	5	5	5
9.Up-prog. Response time (*11)	F. III J (****)	mS c	30	30	30	30	50	50	50	50	50	100
10.Down-prog.response time:	Full load (*11)	mS	50	50	80	80	80	100	100	100	100	200
	No load (*12)	mS	450	600	800	900	1100 ated output fo	1300	2100	2000	3000	3000
11.Transient response time		mS					ated output fo o and includin				current. Outp	ut set-point
12.Start up delay		Sec	Less than 6 Se		-,	100						
CONSTANT CURRENT MODE		٧	10	20	30	40	60	80	100	150	300	600
1.Max. Line regulation (*7)			0.05% of rate			40	60	80	100	150	300	600
2.Max. Load regulation (*13)			0.03% of rate									
3.Ripple r.m.s. @ rated voltage. 3-	Phase (*14)	mA	≤800	≤450	≤300	≤150	≤100	≤70	≤45	≤30	≤12	≤5
4.Ripple r.m.s. @ rated voltage. 1-		mA	≤1200	≤600	≤300	≤300	≤200	≤100	≤60	≤40	≤12	≤8
							ollowing 30 m					
5.Temperature coefficient		PPM/°C	150V~600V 70PPM/°C from rated output current, following 30 minutes warm-up.									
6.Temperature stability							nutes warm-u			perature.		
			10V~100V mo	odel: Less tha	n +/-0.25% of	rated output	current over 3) minutes foll	owing power	on.		
7. Warm-up drift			150V~600V: I	ess than +/-0	.15% of rated	output currer	nt over 30 min	ites following	power on.			
ANALOG PROGRAMMING AND N	ONITORING (ISOLATE) FROM	THE OUTPUT)									
1.Vout voltage programming				V or 0~10V, u	ser selectable.	. Accuracy and	d linearity: +/-).15% of rated	Vout.			
2.lout voltage programming (*15)						d linearity: +/-					
3.Vout resistor programming	,						racy and linea					
4.lout resistor programming (*15)						racy and linea					
5.Output voltage monitor			0~5V or 0~10	V, user select	able. Accuracy	y: +/-0.5%.						
6.Output current monitor (*15)			0~5V or 0~10	V, user select	able. Accuracy	y: +/-0.5%.						
SIGNALS AND CONTROLS (ISOLA	TED EROM THE OUTDU	T)										
1. Power supply OK #1 signal	TED THOM THE OUT O		Power supply	output mon	itor Open coll	ector Output	t On: On. Outp	ut Off: Off Ma	ximum Volta	ge: 30V Maxir	num Sink Curi	rent: 10mA
2. CV/CC signal							le: Off. Maximi					
3. LOCAL/REMOTE Analog contro							rical signal or					pen.
4. LOCAL/REMOTE Analog signal							ector. Remote:					
5. ENABLE/DISABLE signal							ontact. 0~0.6V					2
6. INTERLOCK (ILC) control							ontact. Remot					
7. Programmed signals							tage 25V, Max				V zener)	
	ale											= 5V positiv
8. TRIGGER IN / TRIGGER OUT sign	ais						ım high level mum, Min de	lay between	2 pulses 1m	ns.		
9. DAISY_IN/SO control signal			-		6V/2~30V or d							
10. DAISY_OUT/PS_OK #2 signal			4~5V=OK, 0V	(500ohm im	pedance)=Fail							
FUNCTIONS AND FEATURES												
1. Parallel operation			Possible. Up	to 4 identical	units in Maste	r/Slave mode	. Refer to instr	uction manua	l.			
			Possible. Two	identical uni	ts. Refer to ins	truction man	ual.					
2. Series operation			Power suppli	es can be con	nected in Dai:	sy chain to sy	nchronize the	r turn-on and	turn-off.			
<u> </u>			1 Ower suppi	es carr se con				+ho commun		artha frant n		
3. Daisy chain					a proggramr	ned value. Pro	ogramming vi	the commu	ication ports	or the front p	inei.	
3. Daisy chain 4. Constant power control			Limits the ou Emulates ser	tput power to	. Resistance ra	nge: 1~1000r	mΩ. Programn	ning via the co	mmunication	n ports or the	ront panel.	
3. Daisy chain 4. Constant power control 5. Output resistance control			Limits the ou Emulates ser Programmab	tput power to ies resistance le Output rise	Resistance ra	nge: 1~1000r all slew rate. I		ning via the co	mmunication	n ports or the	ront panel.	y via the
3. Daisy chain 4. Constant power control 5. Output resistance control 6. Slew rate control			Limits the ou Emulates ser Programmab communicat	tput power to ies resistance le Output rise ion ports or th	Resistance ra and Output f ne front panel	nge: 1~1000r all slew rate. I	mΩ. Programn Programming	ning via the co range: 0.0001	~999.9 V/mSe	n ports or the ec. or A/mSec.	ront panel. Programming	
3. Daisy chain 4. Constant power control 5. Output resistance control 6. Slew rate control 7. Arbitrary waveforms			Limits the ou Emulates ser Programmab communicat	tput power to ies resistance le Output rise ion ports or th	Resistance ra and Output f ne front panel	nge: 1~1000r all slew rate. I	mΩ. Programn	ning via the co range: 0.0001	~999.9 V/mSe	n ports or the ec. or A/mSec.	ront panel. Programming	
3. Daisy chain 4. Constant power control 5. Output resistance control 6. Slew rate control 7. Arbitrary waveforms PROGRAMMING AND READBA	CK (USB, LAN,		Limits the ou Emulates ser Programmab communicat	tput power to ies resistance le Output rise ion ports or th	Resistance ra and Output f ne front panel	nge: 1~1000r all slew rate. I	mΩ. Programn Programming	ning via the co range: 0.0001	~999.9 V/mSe	n ports or the ec. or A/mSec.	ront panel. Programming	
3. Daisy chain 4. Constant power control 5. Output resistance control 6. Slew rate control 7. Arbitrary waveforms PROGRAMMING AND READBA RS232/485, Optional IEEE(*19)	(*20) Interfaces)	 V	Limits the ou Emulates ser Programmab communicat Profiles of up	tput power to ies resistance ble Output rise ion ports or th to 100 steps	Resistance ra e and Output f ne front panel can be stored	nge: 1~1000r fall slew rate. I in 4 memory	mΩ. Programn Programming cells. Activatio	ning via the co range: 0.0001 n by commar	ommunication ~999.9 V/mSe	n ports or the ec. or A/mSec. nmunication p	ront panel. Programming orts or by the	front panel.
3. Daisy chain 4. Constant power control 5. Output resistance control 6. Slew rate control 7. Arbitrary waveforms PROGRAMMING AND READBA RS232/485, Optional IEEE(*19, 1.Vout programming accuracy (*1	(*20) Interfaces) 6)	 V	Limits the ou Emulates ser Programmab communicat Profiles of up	tput power to ies resistance ile Output rise ion ports or th to 100 steps 20 d output volt	Resistance ra e and Output f ne front panel can be stored 30 age	nge: 1~1000i fall slew rate. I in 4 memory	mΩ. Programn Programming cells. Activatio	ning via the co range: 0.0001 n by commar	ommunication ~999.9 V/mSe	n ports or the ec. or A/mSec. nmunication p	ront panel. Programming orts or by the	front panel.
3. Daisy chain 4. Constant power control 5. Output resistance control 6. Slew rate control 7. Arbitrary waveforms PROGRAMMING AND READBA RS232/485, Optional IEEE(*19 1. Vout programming accuracy (*1 2. lout programming accuracy (*1	(*20) Interfaces) 6)	 V	Limits the ou Emulates ser Programmab communicat Profiles of up 10 0.05% of rate 0.1% of actua	tput power to ies resistance ole Output rise ion ports or the to 100 steps 20 d output volt	Resistance ra e and Output f ne front panel can be stored 30 age ent+0.2% of ra	nge: 1~1000i fall slew rate. I in 4 memory	mΩ. Programn Programming cells. Activatio	ning via the co range: 0.0001 n by commar	ommunication ~999.9 V/mSe	n ports or the ec. or A/mSec. nmunication p	ront panel. Programming orts or by the	front panel.
3. Daisy chain 4. Constant power control 5. Output resistance control 6. Slew rate control 7. Arbitrary waveforms PROGRAMMING AND READBA PROGRAMMING AND READBA SCA (State (1978) 1. Nout programming accuracy (*1 2. lout programming accuracy (*1 3. Vout programming resolution	(*20) Interfaces) 6)	V	Limits the ou Emulates ser Programmat communicat Profiles of up 10 0.05% of rate 0.1% of actua 0.002% of rat	tput power to ies resistance ole Output rise ion ports or the to 100 steps 20 d output volt il output curre	Resistance ra e and Output f e front panel can be stored 30 age ent+0.2% of ra ltage	nge: 1~1000i fall slew rate. I in 4 memory	mΩ. Programn Programming cells. Activatio	ning via the co range: 0.0001 n by commar	ommunication ~999.9 V/mSe	n ports or the ec. or A/mSec. nmunication p	ront panel. Programming orts or by the	front panel.
2.lout programming accuracy (*1 3.Vout programming resolution 4.lout programming resolution	(*20) Interfaces) 6)	V	Limits the ou Emulates ser Programmab communicat Profiles of up 10 0.05% of rate 0.1% of actua 0.002% of rat	tput power to les resistance ele Output rise ion ports or the to 100 steps 20 d output volt il output curre ed output vo ed output cu	Resistance rae and Output for front panel can be stored 30 age ent+0.2% of raltage	nge: 1~1000i fall slew rate. I in 4 memory	mΩ. Programn Programming cells. Activatio	ning via the co range: 0.0001 n by commar	ommunication ~999.9 V/mSe	n ports or the ec. or A/mSec. nmunication p	ront panel. Programming orts or by the	front panel.
3. Daisy chain 4. Constant power control 5. Output resistance control 6. Slew rate control 7. Arbitrary waveforms PROGRAMMING AND READBA RS232/485, Optional IEEE(*19) 1. Vout programming accuracy (*1 3. Vout programming resolution 4. lout programming resolution 5. Vout readback accuracy	(*20) Interfaces) 6)	V	Limits the ou Emulates ser Programmab communicat Profiles of up 10 0.05% of rate 0.1% of actua 0.002% of rat 0.002% of rat 0.005% of rate	tput power to test resistance of the Output rise on ports or the to 100 steps 20 d output voltal output voltal output currend output voltad output voltad output voltad output cured output cued output cued output voltad volta	Resistance ra e and Output f ne front panel can be stored 30 age ent+0.2% of ra ltage rrent tage	nge: 1~1000i fall slew rate. I in 4 memory	mΩ. Programn Programming cells. Activatio	ning via the co range: 0.0001 n by commar	ommunication ~999.9 V/mSe	n ports or the ec. or A/mSec. nmunication p	ront panel. Programming orts or by the	front panel.
3. Daisy chain 4. Constant power control 5. Output resistance control 6. Slew rate control 7. Arbitrary waveforms PROGRAMMING AND READBA RE323/485, Optional IEEE(*19) 1. Yout programming accuracy (*1 2. lout programming accuracy (*1 3. Vout programming resolution	(*20) Interfaces) 6) 5)	V	Limits the ou Emulates ser Programmab communicat Profiles of up 10 0.05% of rate 0.1% of actua 0.002% of rat 0.002% of rat 0.005% of rate	tput power to les resistance ele Output rise ion ports or the to 100 steps 20 d output volt il output curre ed output vo ed output cu	Resistance ra e and Output f ne front panel can be stored 30 age ent+0.2% of ra ltage rrent tage	nge: 1~1000i fall slew rate. I in 4 memory	mΩ. Programn Programming cells. Activatio	ning via the co range: 0.0001 n by commar	ommunication ~999.9 V/mSe	n ports or the ec. or A/mSec. nmunication p	ront panel. Programming orts or by the	front panel.

1U Lab Variable DC Power Supply 1.7kW - 5kW



GENESYS™ 5kW SERIES SPECIFICATIONS

OUTPUT RATING	G	10-500	20-250	30-170	40-125	60-85	80-65	100-50	150-34	200-25	300-17	600-8.5
1.Rated output voltage(*1)	V	10	20-230	30	40	60	80	100-30	150	200-23	300-17	600
2.Rated output vortage(1)	A	500 (*3)	250	170	125	85	65	50	34	25	17	8.5
3.Rated output current (2)	W	5000	5000	5100	5000	5100	5200	5000	5100	5000	5100	5100
INPUT CHARACTERISTICS	V	10	20	30	40	60	80	100	150	200	300	600
				70~265Vac, 4								
1.Input voltage/freq. 3 phase, 3 wire + Ground (*4)				42~460Vac,								
2.01 2004 1.1				42~528Vac,	47~63Hz (Co	vers 380/400	/415/440/46	0/480Vac)				
2. Maximum Input current at 3-Phase, 200V models: 3-Phase, 400V models:		17.5A @ 200' 9.2A @ 380V			,					,	,	
100% load 3-Phase, 400V models:		9.2A @ 380V										
3.Power Factor (Typ)				d output pov	ver							
4.Efficiency (Typ) (*5) (*22)	%	89 (*21)	91	91	91	91	91	91	91	91	92	92
5.Inrush current (*6)	Α	Less than 50	ΙA									
CONSTANT VOLTAGE MODE	V	10	20	30	40	60	80	100	150	200	300	600
1.Max. Line regulation (*7)		0.01% of rate			-10	00	00	100	130	200	300	000
2.Max. Load regulation (*8)	mV	0.01% of rate	75	75	75	75	80	90	120	200	200	400
3.Ripple and noise (p-p, 20MHz) (*9)			10									480
4.Ripple r.m.s. 5Hz~1MHz (*9)	mV	8		12	12	12	15	15	20	60	60	100
5.Temperature coefficient									10:			
6.Temperature stability				r 8hrs interva					ad & temp.			
7. Warm-up drift				output volta	_							
8.Remote sense compensation/wire (*10)	V	2	2	5	5	5	5	5	5	5	5	5
9.Up-prog. Response time (*11)	mS	30	30	30	30	50	50	50	50	50	50	100
10.Down-prog.response time: Full load (*11)	mS	50	50	80	80	80	100	100	100	100	100	200
No load (*12)	mS	300	600	800	900	1000	1200	1900	2000	2500	3000	3000
11. Transient response time	mS	Time for out	put voltage	to recover w ess than 1mS	rithin 0.5% o	fits rated out	tput for a loa	d change 10	~90% of rate	ed output cu 100V.	rrent. Outpu	t set-point:
12.Start up delay	Sec	Less than 5 S			,, 101 1110 00 013	ap to ana m	craumy 1001					
CONSTANT CURRENT MODE	V	10	20	30	40	60	80	100	150	200	300	600
1.Max. Line regulation (*7)		0.05% of rat		irrent								
2.Max. Load regulation (*13)		0.08% of rat										
3.Ripple r.m.s. @ rated voltage. B.W 5Hz~1MHz (*14)	mA	≤1200	≤600	≤300	≤150	≤100	≤70	≤45	≤45	≤45	≤15	≤8
5.Temperature coefficient	PPM/°C	10V~100V	100PPM/°0	from rated	output curre	nt, following	30 minutes	warm-up.	243	240	713	20
6.Temperature stability				from rated o 8hrs. interva					ad & temper	ature		
7. Warm-up drift		10V~100V m	odel: Less tl	nan +/-0.25%	of rated out	put current o	over 30 minu	ites followin	g power on.	ature.		
				/-0.15% of rat	ed output c	urrent over 3	0 minutes fo	llowing pow	er on.			
ANALOG PROGRAMMING AND MONITORING (ISOLATED	FROM T	HE OUTPUT)										
1.Vout voltage programming		0~100%, 0~	5V or 0~10V	user selecta	ble. Accurac	y and linearit	ty: +/-0.15% o	of rated Vout	i.			
2.lout voltage programming (*15)		0~100%, 0~	5V or 0~10V	, user selecta	ble. Accurac	y and linearit	ty: +/-0.4% o	f rated lout.				
3.Vout resistor programming		0~100%, 0~	5/10Kohm fi	ull scale, user	selectable.	Accuracy and	l linearity: +/	'-0.5% of rate	ed Vout.			
4.lout resistor programming (*15)		0~100%, 0~	5/10Kohm fi	ull scale, user	selectable.	Accuracy and	l linearity: +/	-0.5% of rate	ed lout.			
5.Output voltage monitor		0~5V or 0~1	0V, user sele	ctable. Accu	racy: +/-0.59	of rated Vo	ut.					
6.Output current monitor (*15)		0~5V or 0~1	0V, user sele	ctable. Accu	racv: ±/-0 50							-
CICNAL CAND CONTROL C (ICOLATED EDG)					Tacy. T/-0.5/	6 of rated lou	t.					
	F)				Tacy. +/-0.5/	of rated lou	ıt.					
SIGNALS AND CONTROLS (ISOLATED FROM THE OUTPU	_	T_										
1. Power supply OK #1 signal				onitor. Open	collector. Ou	ıtput On: On	. Output Off:					nt: 10mA.
1. Power supply OK #1 signal 2. CV/CC signal		CV/CC Moni	tor. Open co	llector. CC m	collector. Ou	itput On: On mode: Off. M	. Output Off: laximum Vol	tage: 30V, M	aximum Sink	Current: 10r	mA.	
Power supply OK #1 signal CV/CC signal LOCAL/REMOTE Analog control		CV/CC Moni Enable/Disa	tor. Open co ble analog p	llector. CC m programming	collector. Ou ode: On. CV g control by	itput On: On mode: Off. M electrical sigi	. Output Off: laximum Vol nal or dry con	tage: 30V, M ntact. Remot	aximum Sink e: 0~0.6V or	Current: 10r short. Local:	nA. 2∼30V or op	en.
1. Power supply OK #1 signal 2. CV/CC signal		CV/CC Moni Enable/Disa analog prog	tor. Open co ble analog p ramming co	llector. CC m programming ntrol monitor	collector. Ou lode: On. CV g control by o signal. Oper	utput On: On. mode: Off. M electrical sign collector. Re	Output Off: laximum Vol nal or dry con mote: On. Lo	tage: 30V, M ntact. Remot cal: Off. Max	aximum Sink e: 0~0.6V or imum Voltag	Current: 10r short. Local: e: 30V, Maxim	nA. 2~30V or op num Sink Curi	en.
Power supply OK #1 signal CV/CC signal LOCAL/REMOTE Analog control		CV/CC Moni Enable/Disa analog prog	tor. Open co ble analog p ramming co	llector. CC m programming	collector. Ou lode: On. CV g control by o signal. Oper	utput On: On. mode: Off. M electrical sign collector. Re	Output Off: laximum Vol nal or dry con mote: On. Lo	tage: 30V, M ntact. Remot cal: Off. Max	aximum Sink e: 0~0.6V or imum Voltag	Current: 10r short. Local: e: 30V, Maxim	nA. 2~30V or op num Sink Curi	en.
1. Power supply OK #1 signal 2. CV/CC signal 3. LOCAL/REMOTE Analog control 4. LOCAL/REMOTE Analog signal		CV/CC Moni Enable/Disa analog prog Enable/Disa	tor. Open co ble analog p ramming co ble PS outp	llector. CC m programming ntrol monitor	collector. Ou lode: On. CV g control by o signal. Oper al signal or d	ntput On: On mode: Off. M electrical sign collector. Re lry contact. 0	. Output Off: laximum Vol nal or dry cor mote: On. Lo ~0.6V or sho	tage: 30V, M ntact. Remot cal: Off. Max ort, 2~30V or	aximum Sink :e: 0~0.6V or imum Voltag open. User s	Current: 10r short. Local: e: 30V, Maxim electable loc	nA. 2~30V or op num Sink Curi	en.
1. Power supply OK #1 signal 2. CV/CC signal 3. LOCAL/REMOTE Analog control 4. LOCAL/REMOTE Analog signal 5. ENABLE/DISABLE signal		CV/CC Moni Enable/Disa analog prog Enable/Disa Enable/Disa	tor. Open co ble analog p ramming co ble PS outpo ble PS outpo	ollector. CC morogramming ntrol monitor ut by electric	collector. Ou lode: On. CV g control by o signal. Oper al signal or c al signal or c	utput On: On. mode: Off. M electrical sign collector. Re lry contact. 0 lry contact. R	Output Off: laximum Vol nal or dry coi mote: On. Lo ~0.6V or sho emote: 0~0.	tage: 30V, M ntact. Remot cal: Off. Max ort, 2~30V or 6V or short. I	aximum Sink ee: 0~0.6V or imum Voltag open. User s Local: 2~30V	Current: 10r short. Local: e: 30V, Maxim electable log or open.	mA. 2~30V or op num Sink Curi gic.	en.
1. Power supply OK #1 signal 2. CV/CC signal 3. LOCAL/REMOTE Analog control 4. LOCAL/REMOTE Analog signal 5. ENABLE/DISABLE signal 6. INTERLOCK (ILC) control		CV/CC Moni Enable/Disa analog prog Enable/Disa Enable/Disa Two open di Maximum	tor. Open co ble analog p ramming co ble PS outpo ble PS outpo rain progran low level in	ollector. CC morogramming ntrol monitor ut by electric ut by electric nmable signa uput voltage	collector. Ou node: On. CV g control by o r signal. Oper al signal or c al signal or c als. Maximun e = 0.8V,Mir	itput On: On. mode: Off. M electrical sign collector. Re lry contact. 0 lry contact. R n voltage 25\	Output Off: laximum Vol nal or dry coi mote: On. Lo ~0.6V or sho emote: 0~0. /, Maximum level input	tage: 30V, M ntact. Remot cal: Off. Maxi ort, 2~30V or 6V or short. I sink current	aximum Sink te: 0~0.6V or imum Voltage open. User s Local: 2~30V 100mA (Shui 2.5V, Maxim	short. Local: e: 30V, Maxim electable log or open. nted by 27V a	mA. 2~30V or op num Sink Curr gic. zener)	en. rent: 10mA.
1. Power supply OK #1 signal 2. CV/CC signal 3. LOCAL/REMOTE Analog control 4. LOCAL/REMOTE Analog signal 5. ENABLE/DISABLE signal 6. INTERLOCK (ILC) control 7. Programmed signals 8. TRIGGER IN / TRIGGER OUT signals		CV/CC Moni Enable/Disa analog prog Enable/Disa Enable/Disa Two open di Maximum positive ed	tor. Open co ble analog p ramming co ble PS outpu ble PS outpu rain progran low level in ge trigger:	orogramming ntrol monitor ut by electric ut by electric nmable signa uput voltage tw=10us m	collector. Ou node: On. CV g control by o signal. Oper al signal or c al signal or c als. Maximun e = 0.8V,Mir sinimum. Tr	itput On: On. mode: Off. M electrical sign collector. Re lry contact. 0 lry contact. R n voltage 25\ nimum high Tf=1us Max	Output Off: laximum Vol nal or dry coi mote: On. Lo ~0.6V or sho emote: 0~0. /, Maximum level input	tage: 30V, M ntact. Remot cal: Off. Maxi ort, 2~30V or 6V or short. I sink current	aximum Sink ie: 0~0.6V or imum Voltage open. User s Local: 2~30V 100mA (Shui 2.5V, Maxim	short. Local: e: 30V, Maxim electable log or open. nted by 27V a	mA. 2~30V or op num Sink Curr gic. zener)	en. rent: 10mA.
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GENESYS™ 2.7kW/3.4kW/5kW SERIES SPECIFICATIONS

PROTECTIVE FUNCTIONS		٧	10	20	30	40	60	80	100	150	200	300	600
1.Foldback protection			Output shut User preseta	-down whei ble. Reset b	n power supp y AC input re	oly changes r cycle in auto	node from C\ start mode, l	or Power Li by Power Sw	imit to CC mo itch, by OUTF	ode or from C PUT button, b	C or Power l	imit to CV mo	ode. unication.
2.Over-voltage protection (OVP)			Output shut	down. Rese	t by AC inpu	t recycle in a	utostart mod	le, by OUTPL	JT button, by	rear panel o	r by commu	nication.	
3.Over -voltage programming ran	ge	٧	0.5~12	1~24	2~36	2~44.1	5~66.15	5~88.2	5~110.25	5~165.37	5~220.5	5~330.75	5~661.5
4. Over-voltage programming acc	uracy		+/-1% of rate	d output vo	ltage								
5.Output under voltage limit (UVL)							alog progra	mming. Pres	et by front pa	anel or comr	nunication po	ort.
6.Over temperature protection					Auto recover		rt mode.						
7. Output under voltage limit (UVL	_)		Prevents adj	ustment of	Vout below li	mit.							
8. Output under voltage protectio	n (UVP)		Prevents adj mode, by Po	ustment of wer Switch,	Vout below li by OUTPUT b	mit. P.S outp outton, by re	ut turns Off o ar panel or b	during under y communic	r voltage con ation.	dition. Reset	by AC input	recycle in au	ostart
FRONT PANEL													
1.Control functions			Multiple opt	ions with 2	Encoders								
			Vout/Iout/Po	ower Limit n	nanual adjust								
			OVP/UVL/U\										
					VP, UVL,UVP,								
					ns - Selectio	n of LAN,IEEE	,RS232,RS48	5,USB or Opt	tional commi	unication inte	erface.		
			Output ON/			(0 10							
					ns - Selection								
					ns - Selection ns - Selectior					ogramming			
2.Display	+				0.05% of rate				JV.				
2.Dispiay					0.03% of rated								
3.Front Panel Buttons Indications									IFIGURATION	SYSTEM SE	OLIENCER		
4. Front Panel Display Indications			Voltage Current Power CV CC CP External Voltage External Current Address LEP Autostart Safetstart Foldback V/L								ick V/I, Remot	ie .	
. ,			(communica	tion), RS/US	B/LAN/IEEE C	ommunicati	on, Irigger, L	oad/Store C	eii.				
ENVIRONMENTAL CONDITIONS													
1.Operating temperature			0~50°C, 100	% load.									
2.Storage temperature			-30~85°C										
3.Operating humidity		%	20~90% RH	(no condens	sation).								
4.Storage humidity		%	10~95% RH	no condens	ation).								
5.Altitude (*17)			Operating: 1	0000ft (300	0m), output c	urrent derat	ng 2%/100m	or Ta deratir	ng 1°C/100m	above 2000n	n. Non opera	ting: 40000ft	(12000m).
MECHANICAL													
1.Cooling			Forced air co	oling by int	ernal fans. Ai	r flow direct	on: from Fro	nt panel to p	ower supply	rear			
2.Weight		kg	2.7kW/3.4kV	/ - Less than	6.25kg.			5kW - Less t	han 7.5kg.				
3.Dimensions (WxHxD)		mm	W: 423, H: 4	13.6, D: 44	1.5 (Without 3.5 (Includin	t busbars ar	d busbars o	cover), cover) (Re	fer to Outlin	ie drawing).			
4.Vibration			MIL-810G. m	ethod 514.6	, Procedure I	test conditi	on Annex C -	2.1.3.1					
5.Shock					11mSec. Unit								
			1	-,						-			
SAFETY/EMC	c c .		111 60050 1 4	C 4 22 2 11	(0050 1 156	0050 1 FNG	2050.1						
1.Applicable standards:	Safety				60950-1, IEC6								
1.1. Interface classification			60≤ Vout≤	500V Model	out, J1,J2,J3,J s: Output, J8	(sense) are h	azardous, J1,	J2,J3,J4,J5,J6	5,J7 and J9 (c	ommunicatio	on options) a	re SELV	
					ut - Output (,							
1.2 Withstand voltage			Output - Gr	ound: 1500	VDC 1min, I	nput - Grou	nd: 2835VD	Ċ 1min.				0VDC 1min,	
			100 <vout≤6 Output - Gr</vout≤6 	600V Mode ound: 2500	ls: Input - O	utput: 4242\ nput - Grou	DC 1min, Ir nd: 2835VD	nput - SELV C 1min.	: 4242VDC 1	Imin, Output	t - SELV: 15	00VDC 1mir	ι,
1.3 Insulation resistance			100Mohm at										
2.Conducted emmission					l environmer	nt. Annex H t	able H.1 . FCC	Part 15-A V	/CCI-A.				
3.Radiated emission					l environmer					Δ			
4. EMC compliance	EMC(*18)				04-3 Industria			,	, VCCI-/	•			
4. LIVIC COMPHANCE	FINIC(10)		Inccording to	ILC/ENGIZO	J4-5 IIIUUSTII	ai environime	IIL						

Unless otherwise noted, specifications are warranted over the ambient temperature range of 0° to 50° C.

- Unless otherwise noted, specifications are warranted over the ambient temperature range of 0° to 50° C.

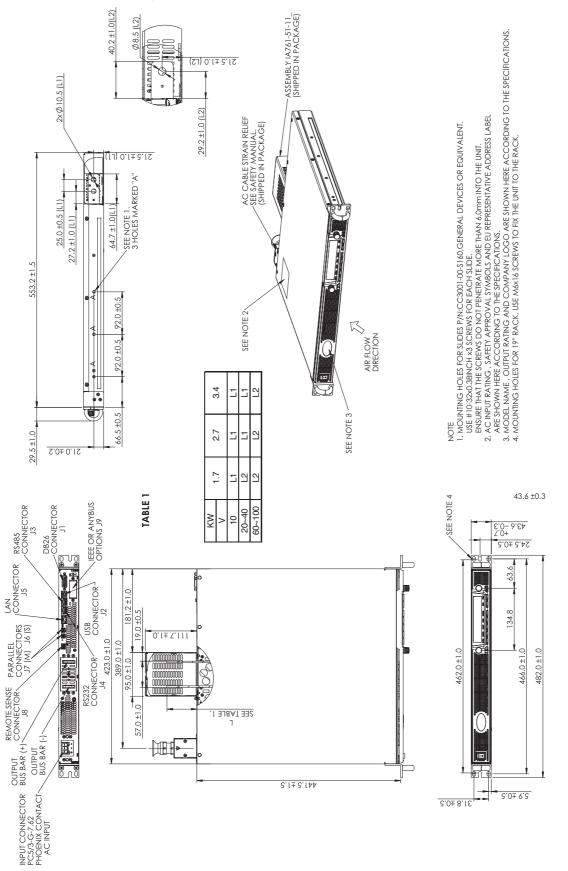
 NOTES:

 * 1: Minimum voltage is guaranteed to maximum 0.1% of rated output voltage.
 * 2: Minimum current is guaranteed to maximum 0.2% of rated output current.
 * 3: Derate 5A/1°C above 40°C.

 * 4: For cases where conformance to various safety standards (UL, IEC, etc...) is required, to be described as 190-240Vac (50/60Hz) for 3-Phase
 * 5: 3-Phase 200V models: At 200Vac input voltage, 3-Phase 400/480V: At 380Vac input voltage. With rated output power.
 * 6: Not including EMI filter inrush current, less than 0.2mSec.
 * 7: 3-Phase 200V models: 170-265Vac, 3-Phase 400V models: 342-460Vac, 3-Phase 480V models: 342-528Vac. Constant load.
 * 8: From No-Load to Full-Load, constant input voltage. Measured at the sensing point in Remote Sense.
 * 9: For 10V-150V models: Measured with JETIA RC-913TC (1:1) probe. For 300~600V model: Measured with 100:1 probe.
 * 10: The maximum voltage on the power supply terminals must not exceed the rated voltage.
 * 11: From 10% to 90% or 90% to 10% of Rated Output Voltage, with rated, resistive load.
 * 12: From 90% to 10% of Rated Output Voltage.
 * 13: For load voltage change, equal to the unit voltage rating, constant input voltage.
 * 14: For 10V model, the ripple is measured at 20~100% of 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 programming, readback and monitoring accuracy do not include the warm-up and Load regulation thermal drift.
 * 16: Measured at the sensing point.
 * 17: For 10V model Ta derating 2°C/100m.
 * 18 Signal and control ports interface cables length: Less than 3m, DC output power port cables length: Less than 30m.
 * 19 Max. ambient temperature for using IEEE is 40°C.
 * 20 For 10V model only: Max. output current for using IEEE is 40°C.
 * 21: For 10V model only: Max. output current for using IEEE is 40°C.
 * 22: Typ. at Ta=25°C, rated output power.

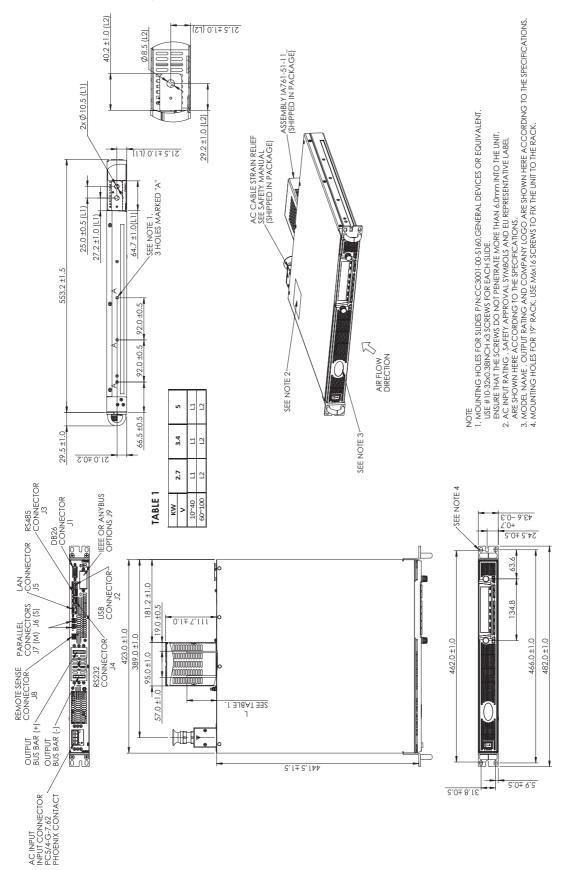


Outline Drawing GENESYS™ G1.7kW/2.7kW/3.4kW - 1-Phase



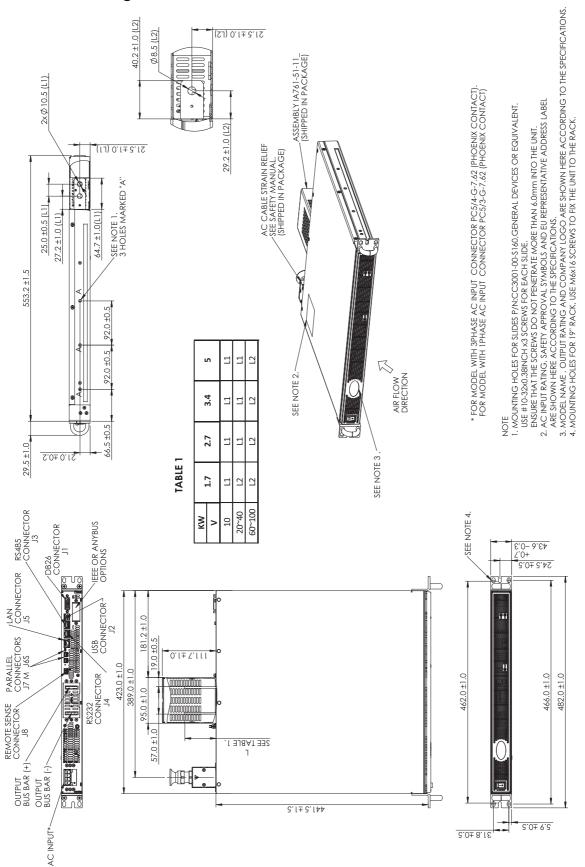


Outline Drawing GENESYS[™] G2.7kW/G3.4kW/G5kW - 3-Phase



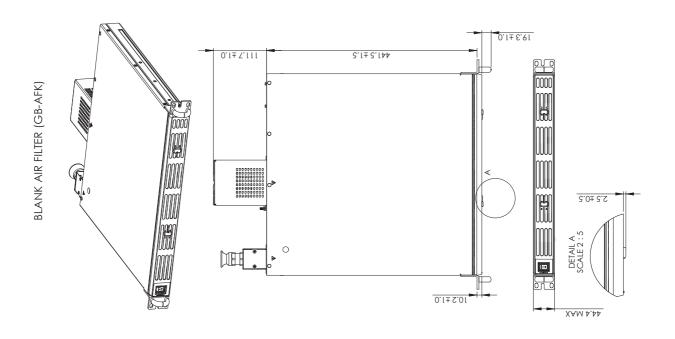


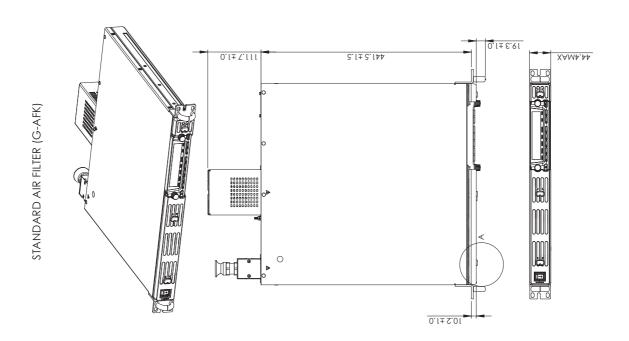
Outline Drawing GENESYS™ GB1.7kW/GB2.7kW/GB3.4kW/GB5kW - ATE Version





Outline Drawing **GENESYS™** Air Filter Kit







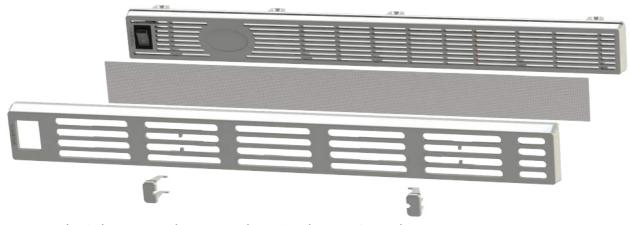
Front Panel Air Filter Assembly

Front panel dust cover is available for dusty air environment applications Dust cover is removable snap-in filter (for easy maintenance)

Part Number (for standard unit): G-AFK



• Part Number (for unit with blank front panel): GB-AFK



For GSP 10kW/15kW series order part number: GSP10kW-AFK / GSP15kW-AFK

Accessories

1. Front Panel dust filter / Field installation kit:

Technical Specifications: Unit with Air Filter Assembly Installed

- Derating (environmental):
- Operating Temperature
- For all models (except 10V): 0°C to +40°C; For 10V model: 0°C to +30°C, derate 5A/°C for 30°C < Ta < +40°C
- Altitude
- For all models (except 10V): derate 2°C/100m or 2% of load/100m (above 2000m)
- For 10V model: derate 1°C/100m or 2% of load/100m (above 2000m)

Filter Foam Technical Specifications

- \bullet Material: reticulated polyurethane $\bar{\text{fo}}\text{am}$
- Thickness: 4.0mm
- Porosity: 30ppi
- Operating Temperature Range: 0°C to +60°C
- Storage Temperature Range: -40°C to +85°C
- · Humidity: 95% RH

Air Filter Assembly Components

Standard Unit (P/N: G-AFK)

- · Air Filter Cover (two pieces)
- Slide Button #1 (two locations: near AC ON/OFF switch and near left-hand side of front panel display)
- Slide Button #2 (one location: right-hand side of front panel display)
- · Filter foam (two pieces)

Blank Front Panel Unit (P/N: GB-AFK)

- · Air Filter Cover (one piece)
- Slide Button #1 (two locations) Filter foam (one piece)