



# **GENESYS**"

Programmable DC Power Supplies Configurable High Power System GSPS 30kW/45kW/60kW - 19" Rack in 20U

# ! 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 Remote Isolated Analog Interface
  - Built-In LAN (LXI 1.5), USB, and RS-232/RS-485 Interfaces
  - Optional EtherCAT, Modbus-TCP, IEEE (488.2) Interfaces
    - Blank Front Panel Option Available





Trusted • Innovative • Reliable

### TDK-Lambda

The **GENESYS™** Scalable Power System with GSP15kW SERIES assembly are compact, efficient and flexible DC power supplies.

#### Features include:

- Wide Range of popular worldwide AC inputs:
   3ø 208VAC (170VAC ~ 265VAC), Wide-range 3ø 480VAC (342VAC ~ 528VAC)
- Active PFC (0.94 typical)
- Output Voltage up to 600V, Current up to 4500A
- Built-in LAN (*LXI* 1.5), USB, RS-232/RS-485 Interface
- Multi-Drop capability (RS-485)
- · Multi-functional front panel display
- Last-Setting Memory
- Auto-Start / Safe-Start: user selectable
- High Resolution 16 bit ADCs & DACs
- Arbitrary Waveform Generator with Auto-Trigger Capability
- Store up to 100 steps into four internal memory cells
- High-speed Programming
- · Constant Voltage/Constant Current operation modes
- · Constant Power (CP) Limit
- Slew-Rate Control (V/I)
- Internal Resistance Programming Simulation
- Local / Remote Sensing software controlled
- Built-In Remote Isolated Analog Program/Monitor and Control Interface
- Protection functions (OVP, UVP, UVL, FOLD (CV/CC), OCL, OTP, AC FAIL)
- · Fan speed controlled by ambient temperature and load
- Certified LabWindows<sup>™</sup>/CVI, LabVIEW<sup>™</sup>, and IVI Drivers
- Optional EtherCAT, Modbus-TCP, IEEE (488.2) Interfaces
- 19" Rack Mount capability for ATE and OEM application
- Scalable Power Systems of 15kW
- Parallel Systems (up to 120kW) with Auto-Configure
- Worldwide Safety Agency approvals
- · CE Mark for Low Voltage, EMC and RoHS3 Directives
- Five year warranty for the Power Supply

#### **Applications**

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

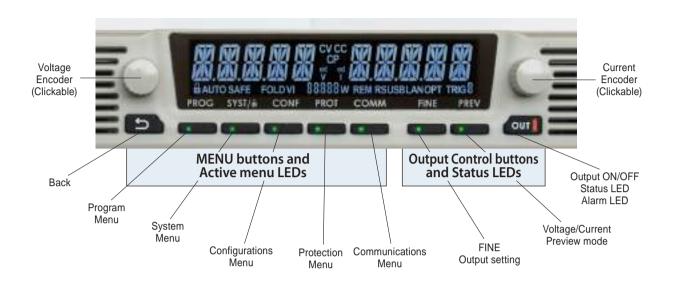
- Test & Measurement systems
- Component Device Testing
- Industrial Automation and process control
- · Semiconductor Processing & Burn-In
- Aerospace & Satellite Testing
- Automotive Component & HIL Testing
- Medical Imaging
- · Magnets, RF Magnifiers and Beam Steering
- Green Technology
- **Higher power systems** can be configured with up to twelve (12) 7.5kW units. Each unit is 1U with zero space between them (zero stack).
- **OEM Designers** have a wide variety of Inputs and Outputs from which to select depending on application and location.



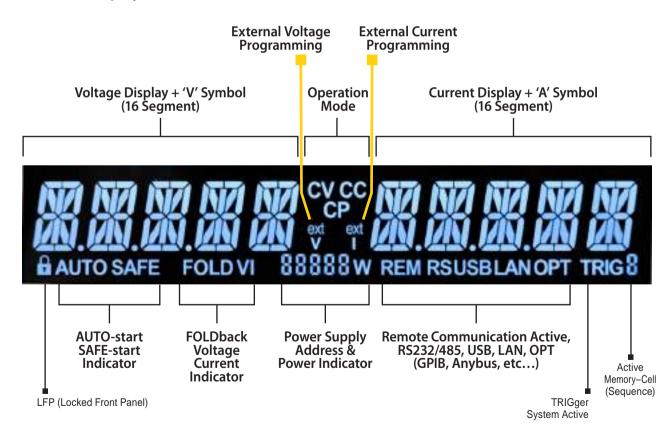




#### **Front Panel Display MENU/CONTROL buttons:**



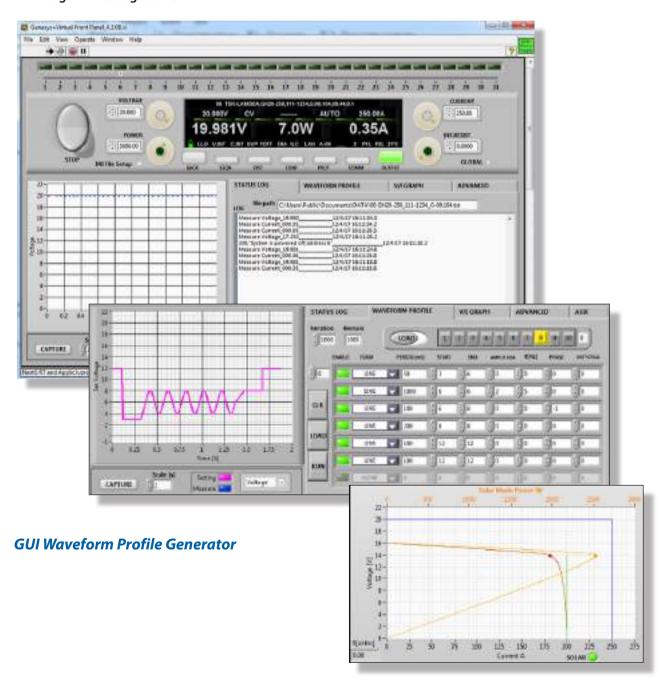
### **Front Panel Display indicators**



#### **Graphical User Interface**

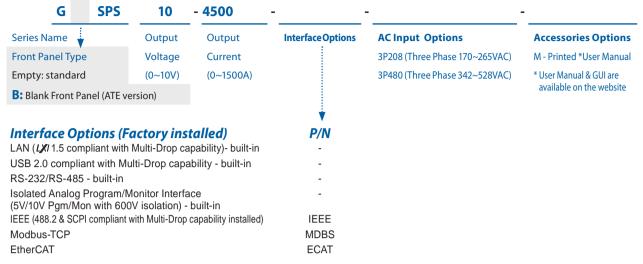
Advanced "Virtual Front Panel" allows programming and monitoring unit(s) with or without front panel display.

- 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.
- 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



### TDK·Lambda

### How to order GSPS 60kW - Configurable Power solu-



Power (kW)	30kW	45kW	60kW		
Voltage (VDC)		Current (A)			
0~10V	0~3000	-	0~4500		
0~20V	0~1500	0~2250	0~3000		
0~30V	0~1020	0~1530	0~2040		
0~40V	0~750	0~1125	0~1500		
0~50V	0~600	0~900	0~1200		
0~60V	0~510	0~765	0~1020		
0~80V	0~390	0~585	0~780		
0~100V	0~300	0~450	0~600		
0~150V	0~204	0~306	0~408		
0~200V	0~150	0~225	0~300		
0~300V	0~102	0~153	0~204		
0~400V	0~78	0~117	0~156		
0~500V	0~60	0~90	0~120		
0~600V	0~51	0~76.5	0~102		

### 60kW High Power System Series Specifications

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

	10-4500	20-3000	30-2040	40-1500	50-1200	60-1020	80-780	100-600	150-408	200-300	300-204	400-156	500-120	600-102
V	10	20	30	40	50	60	80	100	150	200	300	400	500	600
Α	4500 (*3)	3000	2040	1500	1200	1020	780	600	408	300	204	156	120	102
KW	45.0	60.0	61.2	60.0	60.0	61.2	62.4	60.0	61.2	60.0	61.2	62.4	60.0	61.2
V	10	20	30	40	50	60	80	100	150	200	300	400	500	600
	3-Phase,	200V mod	els: 170~2	65Vac, 47~	63Hz (Cov	ers 200/23	0Vac).							
	3-Phase,	480V mod	els: 342~5	28Vac, 47~	63Hz (Cov	ers 380/40	0/415/440	/460/480Va	ıc).					
	212A @ 2	200Vac.												
	110.4A @	380Vac.												
-	0.94 @ 20	00/380Vac	, rated outp	out power.										
%			88							90				
V	10	20	30	40	50	60	80	100	150	200	300	400	500	600
	0.01% of rated output voltage.													
	0.01% of rated output voltage +5mV.													
	50PPM/O	50PPM/ <sup>O</sup> C from rated output voltage, following 30 minutes warm-up.												
	0.01% of	0.01% of rated Vout over 8hrs interval following 30 minutes warm-up. Constant line, load & temperature.												
	Less than	0.05% of	rated outpu	ut voltage +	2mV over	30 minutes	following	power on.						
V	2	2	5	5	5	5	5	5	5	5	5	5	5	5
mS	30	30	30	30	50	50	50	50	50	50	50	100	100	100
m <sup>Q</sup>	50	50	80	80	80	80	100	100	100	100	100	150	200	200
IIIO			800							2500	3000	4000	4000	3000
	Output se	t point: 10	~100%, Lo	cal sense.				·	0~90% of ra	ated outpu	t current.			
V	10	20	30	40	50	60	80	100	150	200	300	400	500	600
	0.05% of	rated outp	ut current.											
	10V~100\	/ models:	100PPM/ <sup>0</sup> 0	C from rate	d output cu	irrent, follo	wing 30 mi	nutes warn	n-up.					
	150V~600V models: 70PPM/°C from rated output current, following 30 minutes warm-up.													
	0.01% of	rated lout	over 8hrs. i	nterval follo	owing 30 m	ninutes war	m-up. Con	stant line, l	oad & temp	erature.				
	10V~100V	/ models:	Less than -	+/-0.25% of	rated outp	ut current	over 30 mi	nutes follov	ving power	on.				
	A KW V	V 10 A 4500(*3) KW 45.0 V 10	V 10 20 A 4500 (*3) 3000 KW 45.0 60.0 V 10 20	V         10         20         30           A         4500 (*3)         3000         2040           KW         45.0         60.0         61.2           V         10         20         30            3-Phase, 200V models: 342-5:         212A @ 200Vac.            212A @ 200Vac.         212A @ 30Vac.            0.94 @ 200/380Vac, rated outp           %         87         88           V         10         20         30            0.01% of rated output voltage -         0.01% of rated output voltage -            50PPM**C from rated output voltage -         50PPM**C from rated output voltage -            50PPM**C from rated output voltage -         2         5           mS         30         30         30           mS         <	V         10         20         30         40           A         4500(*3)         3000         2040         1500           KW         45.0         60.0         61.2         60.0           V         10         20         30         40            3-Phase, 200V models: 170-265Vac, 47-3-Phase, 480V models: 342-528Vac, 47-212A@ 200Vac.         212A@ 200Vac.         212A@ 200Vac.         342-528Vac, 47-34            0.94@ 200/380Vac, rated output power.         87         88         8           V         10         20         30         40            0.01% of rated output voltage.              0.01% of rated output voltage +5mV.          50PPM/°C from rated output voltage, folic            0.01% of rated Vout over 8hrs interval folic          50PPM/°C from rated output voltage, folic            0.01% of rated Vout over 8hrs interval folic          50 FS         5         5           mS         30         30         30         30         30           mS         30         30         30         30           mS         30         30         30         30	V         10         20         30         40         50           A         4500(*3)         3000         2040         1500         1200           KW         45.0         60.0         61.2         60.0         60.0         60.0           V         10         20         30         40         50           3-Phase, 200V models: 170-265Vac, 47-63Hz (Cov.)         3-Phase, 48DV models: 342-528Vac, 47-63Hz (Cov.)         212A @ 200Vac.           212A @ 200Vac.         212A @ 380Vac.         342-528Vac, 47-63Hz (Cov.)           %         87         88         89           V         10         20         30         40         50            0.01% of rated output voltage +5mV.         50         50         50            0.01% of rated output voltage +5mV.         50         50         50         50         50            0.01% of rated vout over 8hrs interval following 30 m         30         30         30         50            0.01% of rated Vout over 8hrs interval following 30 m         30         30         30         50            0.01% of rated over 8hrs interval following 30 m         30         30         30         <	V         10         20         30         40         50         60           A         4500(*3)         3000         2040         1500         1200         1020           KW         45.0         60.0         61.2         60.0         60.0         61.2           V         10         20         30         40         50         60         60.0           3-Phase, 200V models: 170-265Vac, 47-63Hz (Covers 200/23         3-Phase, 480V models: 342-528Vac, 47-63Hz (Covers 380/40         212A@200Vac.         212A@200Vac.	V         10         20         30         40         50         60         80           A         4500(*3)         3000         2040         1500         1200         1020         780           KW         45.0         60.0         61.2         60.0         60.0         61.2         62.4           V         10         20         30         40         50         60         80           3-Phase, 200V models: 170-265Vac, 47-63Hz (Covers 200/230Vac).         3-Phase, 480V models: 342-528Vac, 47-63Hz (Covers 380/400/415/440).           212A @ 200Vac.         212A @ 200Vac.         110.4A @ 380Vac.         34         88         89           V         10         20         30         40         50         60         80           ***** 0.01% of rated output voltage.         40         50         60         80           ***** 0.01% of rated output voltage.         40         50         60         80           ***** 0.01% of rated vout over 8hrs interval following 30 minutes warm-up. Con-up.         40         50         60         80           ***** 0.01% of rated vout over 8hrs interval following 30 minutes warm-up. Con-up.         40         2         2         5         5         5         5	V         10         20         30         40         50         60         80         100           A         4500(*3)         3000         2040         1500         1200         1020         780         60.0         60.0         60.2         60.0         60.0         60.2         62.4         60.0         V         10         20         30         40         50         60         80         100           3-Phase, 200V models: 170-265Vac, 47-63Hz (Covers 200/230Vac).         3-Phase, 480V models: 342-528Vac, 47-63Hz (Covers 380/400/415/440/460/480Vz         212A @ 200Vac.         212A @ 200Vac.         212A @ 200Vac.         110.4A @ 380Vac.         30         40         50         60         80         100	V         10         20         30         40         50         60         80         100         150           A         4500(*3)         3000         2040         1500         1200         1020         780         600         408           KW         45.0         60.0         61.2         60.0         61.2         62.4         60.0         61.2           V         10         20         30         40         50         60         80         100         150           3-Phase, 200V models: 170-265Vac, 47-63Hz (Covers 200/230Vac).         3-Phase, 48DV models: 342-528Vac, 47-63Hz (Covers 380/400/415/440/460/480Vac).         212A @ 200Vac.         212A @ 200Vac.         212A @ 200Vac.         212A @ 380Vac.         3-Phase, 48DV models: 342-528Vac, 47-63Hz (Covers 380/400/415/440/460/480Vac).         3-Phase, 48DV models: 342-528Vac, 47-63Hz (Covers 380/400/415/440/460/480Vac).         3-Phase, 48DV models: 342-528Vac, 47-63Hz (Covers 380/400/415/440/460/480Vac).           212A @ 200Vac.         30         40         50         60         80         100         150           40         80         30         40         50         60         80         100         150	V         10         20         30         40         50         60         80         100         150         200           A         4500(*3)         3000         2040         1500         1200         780         600         408         300           W         45.0         60.0         61.2         60.0         61.2         62.4         60.0         61.2         60.0           V         10         20         30         40         50         60         80         100         150         200            3-Phase, 200V models: 170-265Vac, 47-63Hz (Covers 200/230Vac).         3-Phase, 480V models: 342-528Vac, 47-63Hz (Covers 380/400/415/440/460/480Vac).         212A@ 200Vac.         212A@ 200Vac.         110         20         30         40         50         60         80         100         150         200            0.94 @ 200/380Vac, rated output voltage.         90	V         10         20         30         40         50         60         80         100         150         200         300           A         4500(*3)         3000         2040         1500         1200         1020         780         600         408         300         204           KW         45.0         60.0         61.2         60.0         60.0         61.2         62.4         60.0         61.2         60.0         61.2           V         10         20         30         40         50         60         80         100         150         200         300           3-Phase, 200V models: 170-265Vac, 47-63Hz (Covers 200/230Vac).         3-Phase, 480V models: 342-528Vac, 47-63Hz (Covers 380/400/415/440/460/480Vac).         212A@ 200Vac.         212A@ 200Vac.         110.4         380Vac.         390         300         3	V         10         20         30         40         50         60         80         100         150         200         300         400           A         4500(*3)         3000         2040         1500         1200         1020         780         600         408         300         204         156           KW         45.0         60.0         61.2         60.0         60.0         61.2         60.0         61.2         60.0         61.2         60.0         61.2         60.0         61.2         60.0         61.2         60.0         61.2         60.0         61.2         60.0         61.2         60.0         61.2         60.0         61.2         60.0         61.2         60.0         61.2         60.4         40         400	V

Vout voltage programming	 0~100%, 0~5V or 0~10V, user selectable. Accuracy and linearity: +/-0.15% of rated Vout.
2.lout voltage programming (*12)	 0~100%, 0~5V or 0~10V, user selectable. Accuracy and linearity: +/-0.4% of rated lout.
3.Vout resistor programming	 0~100%, 0~5/10KΩ full scale, user selectable. Accuracy and linearity: +/-0.5% of rated Vout.
4.lout resistor programming (*12)	 0~100%, 0~5/10KΩ full scale, user selectable. Accuracy and linearity: +/-0.5% of rated lout.
5.Output voltage monitor (*19)	 0~5V or 0~10V, user selectable. Accuracy: +/-0.5% of rated Vout.
6.Output current monitor (*12) (*19)	 0~5V or 0~10V, user selectable. Accuracy: +/-0.5% of rated lout.

#### SIGNALS AND CONTROLS (ISOLATED FROM THE OUTPUT)

1.Power supply OK #1 signal	 Power supply output monitor. Open collector. Output On: On. Output Off: Off.  Maximum Voltage: 30V. Maximum Sink Current: 10mA.
2.CV/CC signal	 CV/CC Monitor. Open collector. CC mode: On. CV mode: Off. Maximum Voltage: 30V.  Maximum Sink Current: 10mA.
3.LOCAL/REMOTE Analog control	 Enable/Disable analog programming control by electrical signal or dry contact.  Remote: 0-0.6V or short. Local: 2-30V or open.
4.LOCAL/REMOTE Analog signal	 Analog programming control monitor signal. Open collector. Remote: On. Local: Off. Maximum Voltage: 30V. Maximum Sink Current: 10mA.
5.ENABLE/DISABLE signal	 Enable/Disable PS output by electrical signal or dry contact. 0-0.6V or short, 2-30V or open. User selectable logic.
6.INTERLOCK (ILC) control	 Enable/Disable PS output by electrical signal or dry contact.  Output ON: 0~0.6V or short. Output OFF: 2~30V or open.
7.Programmed signals	 Two open drain programmable signals. Maximum voltage 25V. Maximum sink current 100mA (shunted by 27V zener).
8.TRIGGER IN / TRIGGER OUT signals	 Maximum low level input voltage = 0.8V. Minimum high level input voltage = 2.5V.  Maximum high level input = 5V positive edge trigger: tw = 10us minimum. Tr, Tf = 1us maximum.  Min delay between 2 pulses 1ms.
9.DAISY_IN/SO control signal	 By electrical Voltage: 0~0.6V/2~30V or dry contact.
10.DAISY_OUT/PS_OK #2 signal	 $4\sim$ 5V = OK, 0V (500Ω impedance) = Fail.

#### FUNCTIONS AND FEATURES

Parallel operation     Constant power control	 Consult with manufacturer. Limits the output power to a programmed value. Programming via the communication ports or the front panel.
3.Output resistance control	 Emulates series resistance. Resistance range: 1~1000mΩ. Programming via the communication ports or the front panel.
4.Siew rate control	 Programmable Output rise and Output fall slew rate. Programming range: 0.0001-999.99 V/mS. or A/mS. Programming via communication ports or front panel.
5.Arbitrary waveforms	 Profiles of up to 100 steps can be stored in 4 memory cells. Activation by command via communication ports or front panel.

	PROGRAMMING AND READBACK	(USB. I	LAN. RS232/485.	Optional (*	16)	(*17)	Interfaces)
--	--------------------------	---------	-----------------	-------------	-----	-------	-------------

PROGRAMMING AND READBACK (USB, L															
	V	10	20	30	40	50	60	80	100	150	200	300	400	500	600
1.Vout programming accuracy (*13)		0.05% of ra													
2.lout programming accuracy (*12)			3% of rated output current.												
3. Vout programming resolution			002% of rated output voltage.												
4.lout programming resolution			02% of rated output current.												
5.Vout readback accuracy			15% of rated output voltage. 2% of rated output current.												
6.lout readback accuracy (*12)     7.Vout readback resolution	0/ of roted	0.2% of rat	ea output d	current.										1	
7. Vouc readback resolution	% of rated output voltage	0.011%	0.011%   0.006%   0.004%   0.003%   0.003%   0.002%   0.002%   0.011%   0.007%   0.005%   0.004%   0.003%   0.003%   0								0.002%				
8.lout readback resolution	% of rated output current	0.003%	0.003% 0.004% 0.005% 0.007% 0.01% 0.01% 0.0013% 0.002% 0.003% 0.004% 0.005% 0.007% 0.009% 0									0.01%			
PROTECTIVE FUNCTIONS	V	10	20	30	40	50	60	80	100	150	200	300	400	500	600
1.Foldback protection		Output shu Reset by A												le. User pre	esetable.
2.Over-voltage protection (OVP)		Output shu	t-down. Re	set by AC	input recyc	cle in autos	tart mode,	by Power	Switch, by	OUTPUT	button, by	rear panel	or by comn	nunication.	
3.Over -voltage programming range	V	0.5~12	1~24	2~36	2~44.1	5~55.125	5~66.15	5~88.2	5~110.25	5~165.37	5~220.5	5~330.75	5~441	5~551.25	5~661.5
4.Over-voltage programming accuracy		+/-1% of ra	ted output	voltage											
5.Output under voltage limit (UVL)		Prevents fr	om adjustir	ng Vout be	low limit. D	oes not ap	ply in anal	og prograr	nming. Pre	set by fron	t panel or	communica	ation port.		
6.Over temperature protection		Shuts down	the outpu	t. Auto rec	overy by a	utostart mo	de.								
7.Output under voltage protection (UVP)		Prevents a Reset by A	djustment o	of Vout bel	ow limit. P.	.S output to	ırns Off du				el or by co	mmunicatio	on.		
FRONT PANEL															
1.Control functions		Multiple op													
		Vout/Iout/P			ljust.										
		OVP/UVL/U			111/25 5	Lillian Co	N F114 "	0							
		Protection							ional ser	nuniostis -	interfere				
		Communic Output ON				111, KOZ32	, KO485, L	ob ur Upt	ioriai comr	nunication	ппенасе.				
		Communic				aud Rate	Address IE	and com	nunication	landilado					
		Analog Co									mmina				
		Analog Mo								progra					
2.Display															
· ′			Vout: 4 digits, accuracy: 0.05% of rated output voltage +/-1 count.  lout: 4 digits, accuracy: 0.2% of rated output current +/-1 count.												
3. Front Panel Buttons Indications		OUTPUT	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, Remote												
4.Front Panel Display Indications		(communic									art, Saleisi	ait, F01000a	uk v/i, ker	note	
5.Circuit breaker		The AC su	oply for the	Power Sy	stem unit i	s protected	l by 80A ci	rcuit break	ers. These	CB's are	accessible	on the fron	t panel of t	he cabinet.	
ENVIRONMENTAL CONDITIONS															
1.Operating temperature (*3)		0~50 <sup>0</sup> C, 10	00% load.												
2.Storage temperature		-25~65°C.													
3.Operating humidity		20~90% RI	I (no cond	ensation).											
4.Storage humidity		10~95% RI	I (no cond	ensation).											
5.Altitude (*14)		Operating: Non-opera				t derating 2	!%/100m o	r Ta derati	ng 1 <sup>o</sup> C/10	0m above	2000m.				
MECHANICAL		-													
1.Cooling		Forced air		power sup	ply interna	l fans. Airfl	ow directio	n: From ca	binet front	panel to re	ear.	-			
2.Weight	Kg	Less than 2													
3.Dimensions (WxHxD)	mm	W: 553, H:						947), D: 9	02.						
4. Vibration (Package transportation)		ISTA 1H: 2							an 4a-4- **	TM Do4T	Detci-	l dear			
5.Shock & Drop (Package transportation)  SAFETY/EMC		ISTA 1H: 2	u 14, Drop	iest Metho	u: ASIM L	J32/16 TF88	iali; Kotati	on edge di	op test: As	DE 179	Kotationa	ıı arop.			
1.Safety standards		IEC 61010	1.2010 15	C 61010-1	·2010/ΔMI	D1·2016									
1.1.Interface classification						J5, J6, J7,	J8 (sense)	& J9 (com	munication	options) a	re Non Ha	zardous			
		60≤Vout≤6											are Non Ha	zardous.	
1.2.Withstand voltage		Vout≤50V Input - Gro	Models: In	put – Outpi	_ \	,				,					
		60V≤Vout≤ Output & J Input - Gro	8 (sense) - und: 2835\	J1, J2, J3 /DC 1min.	, J4, J5, J6	S, J7 & J9 (	communic	ation optio	ns): 850VE	C 1min, O	utput & J8	(sénse) - (	Ground: 150		n,
		Output & J	8 (sense) -										42VDC 1m Ground: 2	iin, 500VDC 1m	nin.
2.EMC standards (*15) (*18)		IEC/EN612			nment										
2.1.Conducted emission (*18)		IEC/EN612				nex H tabl	e H.1, FC0	C Part 15-A	, VCCI-A.						
2.2.Radiated emission (*18)						nex H tabl				VCCI-A.					
. /		-													

#### 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: Model: 10V Max. ambient temperature is 40°C.
- 3. Model: 107 Max. attribute the processing of the
- \*6: 3-Phase 200V models: 170~265Vac, 3-Phase 480V models: 342~528Vac. Constant load.
- \*7: From No-Load to Full-Load, constant input voltage. Measured at the sensing point in Remote Sense.
- \*8: The maximum voltage on the power supply terminals must not exceed the rated voltage.
- \*9: From 10% to 90% of Rated Output Voltage at rated resistive load.
- \*10: From 90% to 10% of Rated Output Voltage.
- \*11: For load voltage change, equal to the unit voltage rating, constant input voltage.
- \*12: The Constant Current programming, readback and monitoring accuracy do not include the warm-up and Load regulation thermal drift.
- \*13: Measured at the sensing point.
- \*14: For 10V model, Ta derating 2°C/100m.
- \*15: Signal and control ports interface cables length: Less than 3m, DC output power port cables length: Less than 30m.
- \*16: Max. ambient temperature for IEEE is 40C.
- \*17: For 10V model only: Max. output current for IEEE is 4500A up to 40C
- \*18: EMC specs based on GSP15kW series.
- \*19: For steady state only.

# 45kW High Power System Series Specifications

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

OUTPUT RATING			20-2250	30-1530	40-1125	50-900	60-765	80-585	100-450	150-306	200-225	300-153	400-117	500-90	600-76.5
1.Rated output voltage (*1)	V		20	30	40	50	60	80	100	150	200	300	400	500	600
2.Rated output current (*2)	Α		2250	1530	1125	900	765	585	450	306	225	153	117	90	76.5
3.Rated output power	KW		45.0	45.9	45.0	45.0	45.9	46.8	45.0	45.9	45.0	45.9	46.8	45.0	45.9
INPUT CHARACTERISTICS	V		20	30	40	50	60	80	100	150	200	300	400	500	600
1.Input voltage/freq. 3 phase, 3 wire+ground (*3)		3-Phase,	200V mod	els: 170~2	65Vac, 47~	63Hz (Cov	ers 200/23	0Vac).							•
		3-Phase,	480V mod	els: 342~5	28Vac, 47~	63Hz (Cov	ers 380/40	0/415/440	/460/480Va	ac).					
Maximum Input 3-Phase, 200V models:		160A @ 2	200Vac.												
current at 100% load 3-Phase, 480V models:	-	84.3A @	380Vac.												
3.Power Factor (Typ.)		0.94 @ 2	00/380Vac	, rated out	out power.										
4.Efficiency (minimum) (*4)	%	3	37	88	8	9					90				
CONSTANT VOLTAGE MODE	V		20	30	40	50	60	80	100	150	200	300	400	500	600
1.Max. Line regulation (*5)		0.01% of	rated outp	ut voltage.											
2.Max. Load regulation (*6)		0.01% of	0.01% of rated output voltage +5mV.												
3.Temperature coefficient		50PPM/O	50PPM/OC from rated output voltage, following 30 minutes warm-up.												
4.Temperature stability		0.01% of	0.01% of rated Vout over 8hrs interval following 30 minutes warm-up. Constant line, load & temperature.												
5.Warm-up drift		Less than	0.05% of	rated outpo	ut voltage +	2mV over	30 minutes	following	power on.						
6.Remote sense compensation/wire (*7)	V		2	5	5	5	5	5	5	5	5	5	5	5	5
7.Up-prog. response time (*8)	mS		30	30	30	50	50	50	50	50	50	50	100	100	100
8.Down-prog. Full load (*8)	mS		50	80	80	80	80	100	100	100	100	100	150	200	200
response time: No load (*9)	IIIO		600	800	900	950	1000	1200	1900	2000	2500	3000	4000	4000	3000
9.Transient response time		Output se	t point: 10	~100%, Lo	ver within ( cal sense. o and inclu				•	0~90% of ra	ated outpu	t current.			
CONSTANT CURRENT MODE	V	Loco triar	20	30	40	50	60	80	100	150	200	300	400	500	600
1.Max. Line regulation (*5)		0.05% of	rated outp	ut current											
2.Max. Load regulation (*10)															
3.Temperature coefficient		0.08% of rated output current.  20V-100V models: 100PPM/C from rated output current, following 30 minutes warm-up.													
on polacino ocomocont					C from rate										
4.Temperature stability					interval follo						erature				
5.Warm-up drift					+/-0.25% of										
o.mainrup uint					n +/-0.15%					0 1					
ANALOG PROGRAMMING AND MONITOR	NO (1001 AT				. ,					. 3					

#### ANALOG PROGRAMMING AND MONITORING (ISOLATED FROM THE OUTPUT)

Vout voltage programming	 0~100%, 0~5V or 0~10V, user selectable. Accuracy and linearity: +/-0.15% of rated Vout.
2.lout voltage programming (*11)	 0~100%, 0~5V or 0~10V, user selectable. Accuracy and linearity: +/-0.4% of rated lout.
3.Vout resistor programming	 0~100%, 0~5/10KΩ full scale, user selectable. Accuracy and linearity: +/-0.5% of rated Vout.
4.lout resistor programming (*11)	 0~100%, 0~5/10KΩ full scale, user selectable. Accuracy and linearity: +/-0.5% of rated lout.
5.Output voltage monitor (*16)	 0-5V or 0-10V, user selectable. Accuracy: +/-0.5% of rated Vout.
6.Output current monitor (*11) (*16)	 0-5V or 0-10V, user selectable. Accuracy: +/-0.5% of rated lout.

#### SIGNALS AND CONTROLS (ISOLATED FROM THE OUTPUT)

1.Power supply OK #1 signal	 Power supply output monitor. Open collector. Output On: On. Output Off: Off.  Maximum Voltage: 30V. Maximum Sink Current: 10mA.
2.CV/CC signal	 CV/CC Monitor. Open collector. CC mode: On. CV mode: Off. Maximum Voltage: 30V. Maximum Sink Current: 10mA.
3.LOCAL/REMOTE Analog control	 Enable/Disable analog programming control by electrical signal or dry contact.  Remote: 0-0.6V or short. Local: 2-30V or open.
4.LOCAL/REMOTE Analog signal	 Analog programming control monitor signal. Open collector. Remote: On. Local: Off. Maximum Voltage: 30V. Maximum Sink Current: 10mA.
5.ENABLE/DISABLE signal	 Enable/Disable PS output by electrical signal or dry contact. 0-0.6V or short, 2-30V or open. User selectable logic.
6.INTERLOCK (ILC) control	 Enable/Disable PS output by electrical signal or dry contact.  Output ON: 0~0.6V or short. Output OFF: 2~30V or open.
7.Programmed signals	 Two open drain programmable signals. Maximum voltage 25V. Maximum sink current 100mA (shunted by 27V zener).
8.TRIGGER IN / TRIGGER OUT signals	 Maximum low level input voltage = 0.8V. Minimum high level input voltage = 2.5V.  Maximum high level input = 5V positive edge trigger: tw = 10us minimum. Tr,Tf = 1us maximum.  Min delay between 2 pulses 1ms.
9.DAISY_IN/SO control signal	 By electrical Voltage: 0-0.6V/2-30V or dry contact.
10.DAISY_OUT/PS_OK #2 signal	 4~5V = OK, 0V (500Ω impedance) = Fail.

#### FUNCTIONS AND FEATURES

1.Parallel operation	 Consult with manufacturer.
2.Constant power control	 Limits the output power to a programmed value. Programming via the communication ports or the front panel.
3.Output resistance control	 Emulates series resistance. Resistance range: 1~1000mΩ. Programming via the communication ports or the front panel.
4. Slew rate control	 Programmable Output rise and Output fall slew rate. Programming range: 0.0001–999.99 V/mS. or A/mS. Programming via communication ports or front panel.
5.Arbitrary waveforms	 Profiles of up to 100 steps can be stored in 4 memory cells. Activation by command via communication ports or front panel.

PROGRAMMING AND READBACK (US	B, LAN, RS232/4	485, Option	al (*14) In	terfaces)											
	V		20	30	40	50	60	80	100	150	200	300	400	500	600
1.Vout programming accuracy (*12)		0.05% of ra	0.05% of rated output voltage.												
2.lout programming accuracy (*11)		0.3% of rate	0.3% of rated output current.												
3.Vout programming resolution		0.002% of rated output voltage.													
4.lout programming resolution		0.002% of rated output current.													
5.Vout readback accuracy		0.05% of rated output voltage.													
6.lout readback accuracy (*11)		0.2% of rate	% of rated output current.												
7.Vout readback resolution	% of rated output voltage		0.006%	0.004%	0.003%	0.003%	0.002%	0.002%	0.011%	0.007%	0.005%	0.004%	0.003%	0.003%	0.002%
8.lout readback resolution	% of rated output current		0.005%	0.007%	0.009%	0.0012%	0.002%	0.002%	0.003%	0.004%	0.005%	0.007%	0.009%	0.0012%	0.00149
PROTECTIVE FUNCTIONS	V		20	30	40	50	60	80	100	150	200	300	400	500	600
1.Foldback protection		Output shut Reset by A	t-down wh C input red	en power s cycle in au	supply cha tostart mod	nges mode de, by Pow	from CV o	or Power L	mit to CC i	mode or from	om CC or F el or by co	ower Limit mmunicatio	to CV mod	le. User pre	esetable.
2.Over-voltage protection (OVP)		Output shut	t-down. Re	eset by AC	input recy	cle in auto	start mode,	by Power	Switch, by	OUTPUT	button, by	rear panel	or by comr	nunication.	
3.Over -voltage programming range	V		1~24	2~36	2~44.1	5~55.125	5~66.15	5~88.2	5~110.25	5~165.37	5~220.5	5~330.75	5~441	5~551.25	5~661.
4.Over-voltage programming accuracy		+/-1% of rat													1
5.Output under voltage limit (UVL)			rl-1% of rated output voltage Prevents from adjusting Vout below limit. Does not apply in analog programming. Preset by front panel or communication port.												
6.Over temperature protection		Shuts down the output. Auto recovery by autostart mode.													
7.Output under voltage protection (UVP)		Prevents ac	Prevents adjustment of Vout below limit. P.S output turns Off during under voltage condition.  Reset by AC input recycle in autostart mode, by Power Switch, by OUTPUT button, by rear panel or by communication.												
FRONT PANEL				,		, .,		.,		,					
1.Control functions		Multiple options with 2 Encoders.													
		Vout/lout/Power Limit manual adjust.													
		OVP/UVL/UVP manual adjust.													
		Protection Functions - OVP, UVL, UVP, Foldback, OCL, ENA, ILC.													
		Communication Functions - Selection of LAN, RS232, RS485, USB or Optional communication interface.													
		Output ON/													
		Communication Functions - Selection of Baud Rate, Address, IP and communication language.													
		Analog Cor								KΩ progra	mming.				
		Analog Mor							V.						
2.Display		Vout: 4 digi						nt.							
		lout: 4 digit:													
3.Front Panel Buttons Indications		OUTPUT C	N, ALARI	M, PREVIE	W, FINE,	COMMUNI	CATION, F	ROIECII	ON CONF	IGURATIO	N SYSTE	И, SEQUEI	NCER.		
4.Front Panel Display Indications		Voltage, Cu (communic									art, Safets	art, Foldba	ck V/I, Rer	note	
5.Circuit breaker		The AC sup These CB's						circuit bre	akers for 2	00Vac Inp	ut & 1x40A	+1x80A cir	cuit breake	ers for 380\	/ac Input.
ENVIRONMENTAL CONDITIONS		•													
1.Operating temperature		0~50 <sup>0</sup> C, 10	00% load.												
2.Storage temperature		-25~65 <sup>0</sup> C.													
3.Operating humidity		20~90% RI	I (no cond	densation).											
4.Storage humidity		10~95% RI													
5.Altitude		Operating: Non-operat	10000ft (3	000m), ou	tput currer	nt derating	2%/100m c	r Ta derat	ing 1 <sup>o</sup> C/10	0m above	2000m.				

1.Cooling		Forced air cooling by power supply internal fans. Airflow direction: From cabinet front panel to rear.
2.Weight	Kg	Less than 177Kg.
3.Dimensions (WxHxD)	mm	W: 553, H: 1028 (With Castors; Without casrors cabinet hight is 947), D: 902.
4. Vibration (Package transportation)		ISTA 1H: 2014, Method: ASTM D4728 Random vibration test.
5.Shock & Drop (Package transportation)		STA 1H: 2014, Drop test Method: ASTM D5276 free fall; Rotation edge drop test: ASTM D6179 Rotational drop.

#### SAFETY/EMC

1.Safety standards	 IEC 61010-1:2010, IEC 61010-1:2010/AMD1:2016						
1.1.Interface classification	Vout≤50V Models: Output, J1, J2, J3, J4, J5, J6, J7, J8 (sense) & J9 (communication options) are Non Hazardous.						
	 60≤Vout≤600V Models: Output & J8 (sense) are hazardous, J1, J2, J3, J4, J5, J6, J7 & J9 (communication options) are Non Hazardous.						
1.2.Withstand voltage	Vouts50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242VDC 1min, Input - Ground: 2835VDC 1min.						
	 60VsVouts100V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242VDC 1min, Output & J8 (sense) - J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 850VDC 1min, Output & J8 (sense) - Ground: 1500VDC 1min, Input - Ground: 2835VDC 1min.						
	100V <vout≤600v &="" (communication="" (sense)="" (sense),="" -="" 1275vdc="" 1min,="" 1min.="" 1min.<="" 2500vdc="" 2835vdc="" 4242vdc="" and="" ground:="" input="" j1,="" j2,="" j3,="" j4,="" j5,="" j6,="" j7="" j8="" j9="" models:="" options):="" output="" td="" –=""></vout≤600v>						
2.EMC standards (*13) (*15)	 IEC/EN61204-3 Industrial environment						
2.1.Conducted emission (*15)	 IEC/EN61204-3 Industrial environment, Annex H table H.1, FCC Part 15-A, VCCI-A.						
2.2.Radiated emission (*15)	 IEC/EN61204-3 Industrial environment, Annex H table H.3 and H.4, FCC Part 15-A, VCCI-A.						

### TDK-Lambda

#### NOTES:

- \*1: Minimum voltage is guaranteed to maximum 0.1% of rated output voltage.
- \*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: For cases where conformance to various safety standards (IEC, etc...) is required, to be described as 190-240Vac (50/60Hz) for 3-Phase 200V models and 380-480Vac (50/60Hz) for 3-Phase 480V models.
  \*4: 3-Phase 200V models: At 200Vac input voltage, 3-Phase 480V: At 380Vac input voltage. With rated output power.
  \*5: 3-Phase 200V models: 170-265Vac, 3-Phase 480V models: 342-528Vac. Constant load.
  \*6: From No-Load to Full-Load, constant input voltage. Measured at the sensing point in Remote Sense.
  \*7: The maximum voltage on the power supply terminals must not exceed the rated voltage.
  \*8: From 10% to 90% of Rated Output Voltage at rated resistive load.
  \*9: From 90% to 10% of Rated Output Voltage.
  \*10: For load voltage change, equal to the unit voltage rating, constant input voltage.
  \*11: The Constant Current programming, readback and monitoring accuracy do not include the warm-up and Load regulation thermal drift.

- \*11: The Constant Current programming, readback and monitoring accuracy do not include the warm-up and Load regulation thermal drift.
- \*12: Measured at the sensing point.
- \*13: Signal and control ports interface cables length: Less than 3m, DC output power port cables length: Less than 30m.
- \*14: Max. ambient temperature for IEEE is 40C. \*15: EMC specs based on GSP15kW series.
- \*16: For steady state only.

# 30kW High Power System Series Specifications

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

OUTPUT RATING		10-3000	20-1500	30-1020	40-750	50-600	60-510	80-390	100-300	150-204	200-150	300-102	400-78	500-60	600-51	
1.Rated output voltage (*1)	V	10	20	30	40	50	60	80	100	150	200	300	400	500	600	
2.Rated output current (*2)	Α	3000(*3)	1500	1020	750	600	510	390	300	204	150	102	78	60	51	
3.Rated output power	KW	30.0	30.0	30.6	30.0	30.0	30.6	31.2	30.0	30.6	30.0	30.6	31.2	30.0	30.6	
INPUT CHARACTERISTICS	V	10	20	30	40	50	60	80	100	150	200	300	400	500	600	
1.Input voltage/freq. 3 phase, 3 wire+ground (*4)		3-Phase, 200V models: 170~265Vac, 47~63Hz (Covers 200/230Vac).														
		3-Phase,	480V mod	els: 342~52	28Vac, 47~	63Hz (Cov	ers 380/40	0/415/440	/460/480Va	ac).						
Maximum Input 3-Phase, 200V models:		106.8A @	.8A @ 200Vac.													
current at 100% load 3-Phase, 480V models:		56.2A @	380Vac.													
3.Power Factor (Typ.)		0.94 @ 20	4 @ 200/380Vac, rated output power.													
4.Efficiency (minimum) (*5)	%	8	37	88	8	9					90					
CONSTANT VOLTAGE MODE	V	10	20	30	40	50	60	80	100	150	200	300	400	500	600	
1.Max. Line regulation (*6)		0.01% of	.01% of rated output voltage.													
2.Max. Load regulation (*7)		0.01% of														
3.Temperature coefficient		50PPM/ <sup>O</sup>	C from rate	d output vo	oltage, follo	wing 30 m	inutes warı	m-up.								
4.Temperature stability		0.01% of	rated Vout	over 8hrs i	nterval foll	owing 30 n	ninutes war	rm-up. Con	stant line,	load & tem	perature.					
5.Warm-up drift		Less than	0.05% of	rated outpu	ıt voltage +	2mV over	30 minutes	following	oower on.							
6.Remote sense compensation/wire (*8)	V	2	2	5	5	5	5	5	5	5	5	5	5	5	5	
7.Up-prog. response time (*9)	mS	30	30	30	30	50	50	50	50	50	50	50	100	100	100	
8.Down-prog. Full load (*9)	mS	50	50	80	80	80	80	100	100	100	100	100	150	200	200	
response time: No load (*10)	IIIO	300	600	800	900	950	1000	1200	1900	2000	2500	3000	4000	4000	3000	
9.Transient response time		Time for output voltage to recover within 0.5% of its rated output for a load change 10~90% of rated output current.														
		Less than 1mS for models up to and including 100V. 2mS for models above 100V.														
CONSTANT CURRENT MODE	V	10	20	30	40	50	60	80	100	150	200	300	400	500	600	
1.Max. Line regulation (*6)		0.05% of	rated outp	ut current.	•	•										
2.Max. Load regulation (*11)		0.08% of	rated outp	ut current.												
3.Temperature coefficient					from rate	d output cu	rrent, follo	wing 30 mi	nutes warn	n-up.						
		30.0 30.0 30.0 30.6 30.0 30.0 30.0 30.0														
4.Temperature stability								_			perature.				$\overline{}$	
5.Warm-up drift															$\neg \neg$	
										lowing pow					$\neg \neg$	
ANALOG PROGRAMMING AND MONITOR		_			311070		ou o	2 . 31 00		g po						

#### ANALOG PROGRAMMING AND MONITORING (ISOLATED FROM THE OUTPUT)

Vout voltage programming	 0~100%, 0~5V or 0~10V, user selectable. Accuracy and linearity: +/-0.15% of rated Vout.
2.lout voltage programming (*12)	 0~100%, 0~5V or 0~10V, user selectable. Accuracy and linearity: +/-0.4% of rated lout.
3.Vout resistor programming	 0~100%, 0~5/10KΩ full scale, user selectable. Accuracy and linearity: +/-0.5% of rated Vout.
4.lout resistor programming (*12)	 0~100%, 0~5/10KΩ full scale, user selectable. Accuracy and linearity: +/-0.5% of rated lout.
5.Output voltage monitor (*19)	 0-5V or 0-10V, user selectable. Accuracy: +/-0.5% of rated Vout.
6.Output current monitor (*12) (*19)	 0-5V or 0-10V, user selectable. Accuracy: +/-0.5% of rated lout.

#### SIGNALS AND CONTROLS (ISOLATED FROM THE OUTPUT)

1.Power supply OK #1 signal	 Power supply output monitor. Open collector. Output On: On. Output Off: Off.  Maximum Voltage: 30V. Maximum Sink Current: 10mA.
2.CV/CC signal	 CV/CC Monitor. Open collector. CC mode: On. CV mode: Off. Maximum Voltage: 30V. Maximum Sink Current: 10mA.
3.LOCAL/REMOTE Analog control	 Enable/Disable analog programming control by electrical signal or dry contact.  Remote: 0-0.6V or short. Local: 2-30V or open.
4.LOCAL/REMOTE Analog signal	 Analog programming control monitor signal. Open collector. Remote: On. Local: Off. Maximum Voltage: 30V. Maximum Sink Current: 10mA.
5.ENABLE/DISABLE signal	 Enable/Disable PS output by electrical signal or dry contact. 0-0.6V or short, 2-30V or open. User selectable logic.
6.INTERLOCK (ILC) control	 Enable/Disable PS output by electrical signal or dry contact.  Output ON: 0~0.6V or short. Output OFF: 2~30V or open.
7.Programmed signals	 Two open drain programmable signals. Maximum voltage 25V. Maximum sink current 100mA (shunted by 27V zener).
8.TRIGGER IN / TRIGGER OUT signals	 Maximum low level input voltage = 0.8V. Minimum high level input voltage = 2.5V.  Maximum high level input = 5V positive edge trigger: tw = 10us minimum. Tr,Tf = 1us maximum.  Min delay between 2 pulses 1ms.
9.DAISY_IN/SO control signal	 By electrical Voltage: 0-0.6V/2-30V or dry contact.
10.DAISY_OUT/PS_OK #2 signal	 4~5V = OK, 0V (500Ω impedance) = Fail.

#### FUNCTIONS AND FEATURES

Parallel operation		Consult with manufacturer.
2.Constant power control	-	Limits the output power to a programmed value. Programming via the communication ports or the front panel.
3.Output resistance control		Emulates series resistance. Resistance range: 1~1000mΩ. Programming via the communication ports or the front panel.
4.Slew rate control		Programmable Output rise and Output fall slew rate. Programming range: 0.0001~999.99 V/mS. or A/mS. Programming via communication ports or front panel.
5.Arbitrary waveforms		Profiles of up to 100 steps can be stored in 4 memory cells. Activation by command via communication ports or front panel.

PROGRAMMING AND READBACK (USB, LAN, RS232/485, Optional (*16) (*17) Interfaces)
---

PROGRAMMING AND READBACK (USB, E	V	10	20	30	40	50	60	80	100	150	200	300	400	500	600
1.Vout programming accuracy (*13)			0.05% of rated output voltage.												
2.lout programming accuracy (*12)		0.3% of rated output current.													
3.Vout programming resolution			0.002% of rated output voltage. 0.002% of rated output current.												
4.lout programming resolution															
Vout readback accuracy     Inout readback accuracy (*12)			0.05% of rated output voltage.  0.2% of rated output current.												
7. Vout readback resolution	% of rated	0.2% UI Ial	12.70 or ratios surper surrolls												1
7. Vout readback resolution	output voltage	0.011%	0.006%	0.004%	0.003%	0.003%	0.002%	0.002%	0.011%	0.007%	0.005%	0.004%	0.003%	0.003%	0.002%
8.lout readback resolution	% of rated output current	0.004%	0.008%	0.01%	0.0014%	0.002%	0.002%	0.003%	0.005%	0.005%	0.001%	0.001%	0.0014%	0.002%	0.002%
PROTECTIVE FUNCTIONS	V	10	20	30	40	50	60	80	100	150	200	300	400	500	600
1.Foldback protection												ower Limit mmunication	to CV mod on.	le. User pre	esetable.
2.Over-voltage protection (OVP)		Output shu	tput shut-down. Reset by AC input recycle in autostart mode, by Power Switch, by OUTPUT button, by rear panel or by communication.												
Over -voltage programming range	V	0.5~12	1~24	2~36	2~44.1	5~55.125	5~66.15	5~88.2	5~110.25	5~165.37	5~220.5	5~330.75	5~441	5~551.25	5~661.5
4.Over-voltage programming accuracy		+/-1% of ra													
5.Output under voltage limit (UVL)		Prevents fr	om adjusti	ng Vout be	low limit. D	oes not ap	ply in ana	og prograi	nming. Pre	set by fron	t panel or	communica	ation port.		
6.Over temperature protection		Shuts down	the outpu	it. Auto rec	overv by a	utostart mo	de.			-			-		
7.Output under voltage protection (UVP)		Prevents a						ring under	voltage co	ndition.					
. , , ,		Reset by A									el or by co	mmunicatio	on.		
FRONT PANEL	1	hat he r	C 20	) F '											
1.Control functions		Multiple op													
					ujuSt.										
					L. UVP. Fo	ldback Of	CL. ENA II	_C.							
		Vout/lout/Power Limit manual adjust.  OVP/IUVL/UVP manual adjust.  Protection Functions - OVP, UVL, UVP, Foldback, OCL, ENA, ILC.  Communication Functions - Selection of LAN, RS232, RS485, USB or Optional communication interface.													
		Communication Functions - Selection of LAN, RS232, RS485, USB or Optional communication interface.													
		Output ON/OFF, Front Panel Lock. Communication Functions - Selection of Baud Rate, Address, IP and communication language.													
		Analog Control Functions - Selection Voltage/resistive programming 5V/10V, 5KΩ/10KΩ programming.													
		U	Analog Monitor Functions - Selection of Voltage/Current Monitoring 5V/10V.												
2.Display				cy: 0.05%				nt.							
3.Front Panel Buttons Indications		lout: 4 digits, accuracy: 0.2% of rated output current +/-1 count.  OUTPUT ON, ALARM, PREVIEW, FINE, COMMUNICATION, PROTECTION CONFIGURATION SYSTEM, SEQUENCER.													
Front Panel Display Indications  4.Front Panel Display Indications		Voltage, Current, Power, CV, CC, CP, External Voltage, External Current, Address, LFP Autostart, Safetstart, Foldback V/I, Remote													
		Ì	(communication), RS/USB/LAN/Optional communication interface, Trigger, Load/Store Cell.  The AC supply for the Power System unit is protected by 2x80A circuit breakers for 200Vac & 2x40A circuit breakers for 380Vac.												
5.Circuit breaker		The AC su These CB's						circuit bre	akers for 2	00 Vac & 2	x40A circu	it breakers	for 380Vac	). 	
ENVIRONMENTAL CONDITIONS															
1.Operating temperature (*3)		0~50 <sup>0</sup> C, 10	00% load.												
2.Storage temperature		-25~65 <sup>0</sup> C.													
3.Operating humidity		20~90% R	H (no cond	lensation).											
4.Storage humidity		10~95% R	0~95% RH (no condensation).												
5.Altitude (*14)			perating: 10000ft (3000m), output current derating 2%/100m or Ta derating 1 <sup>O</sup> C/100m above 2000m. on-operating: 40000ft (12000m).												
MECHANICAL															
1.Cooling		Forced air	cooling by	power sup	ply interna	l fans. Airfl	ow direction	n: From ca	abinet front	panel to re	ear.				
2.Weight	Kg	Less than		-	-	-			-		-				
3.Dimensions (WxHxD)	mm	W: 553, H:	044 14 4	LAOTA	D 4700 D			947), D: 9	02.						
4. Vibration (Package transportation)		ISTA 1H: 2							on to -1: **	TM Do4T	Date!:	al aluan			
5.Shock & Drop (Package transportation)  SAFETY/EMC		ISTA 1H: 2	u 14, Drop	iest Metho	u. ASTM L	Jo∠/ ti free	ıalı; Kotatı	un edgê di	υρ test: Αξ	IM D6179	Kotationa	ы агор.			
1.Safety standards		IFC 61010	-1·2010 IF	C 61010-1	·2010/AMI	71.2016									
1.1.Interface classification		Vout≤50V					J8 (sense)	& J9 (com	munication	options) a	re Non Ha	zardous.			
		60≤Vout≤6	00V Mode	ls: Output	& J8 (sens	e) are haza	ardous, J1	J2, J3, J4	, J5, J6, J7	& J9 (con	nmunicatio	n options) a	are Non Ha	zardous.	
1.2.Withstand voltage	Vout≤50V Models: Input – Output & J8 (sense), J1, J2, J3, J4, J5, J6, J7 & J9 (communication options): 4242VDC 1min, Input - Ground: 2835VDC 1min.														
		60V≤Vout≤ Output & J Input - Gro	8 (sense)	· J1, J2, J3	, J4, J5, J6								/DC 1min, Ground: 150	00VDC 1mi	n,
		100V <vou Output &amp; J</vou 	t≤600V Mo 8 (sense) ·	dels: Input	– Output 8 , J4, J5, J6								242VDC 1m Ground: 25		nin.
0.5140 ( ) ( ) (445) (615)				VDC 1min.											
2.EMC standards (*15) (*18)		-		strial enviro		nov Liteli	0 H 1 FO	Dort 45	V/CC! ^						
2.1.Conducted emission (*18) 2.2.Radiated emission (*18)				strial enviro					Part 15-A,	VCCI-A					
E.Z.Madiated Ellission ( 10)		LO/ENUIA	.o4-o indu	ourar Erryll (	minoni, Al	IIICA IT IdDI	o i i.J dilü	11.4, 100	an io-M,	voora.					

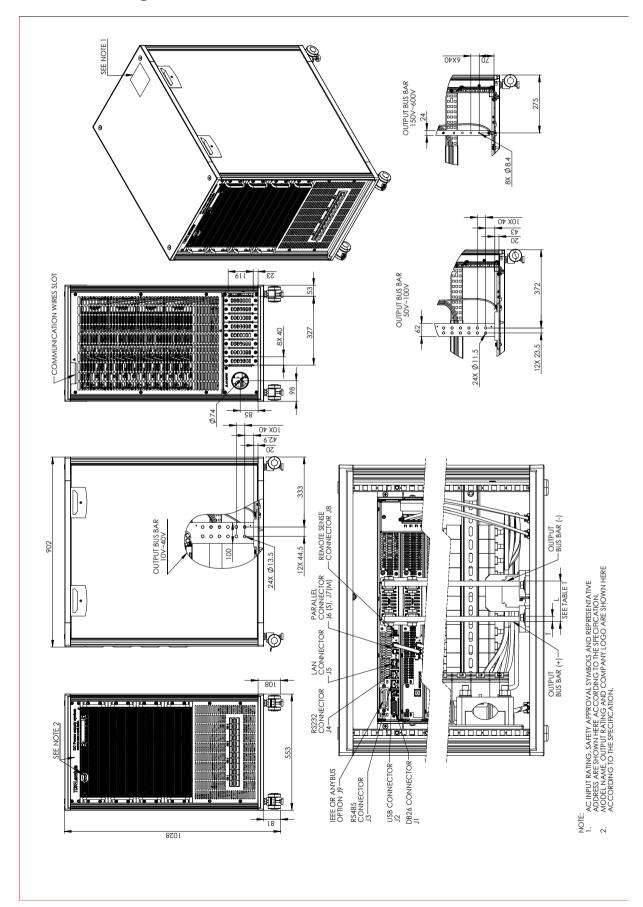
#### NOTES:

- \*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: Model: 10V Max. ambient temperature is 30°C. Output current derate 30A / 1°C
- \*4: For cases where conformance to various safety standards (IEC, etc...) is required, to be described as 190-240Vac (50/60Hz) for 3-Phase 200V models and 380-480Vac (50/60Hz) for 3-Phase 480V models.

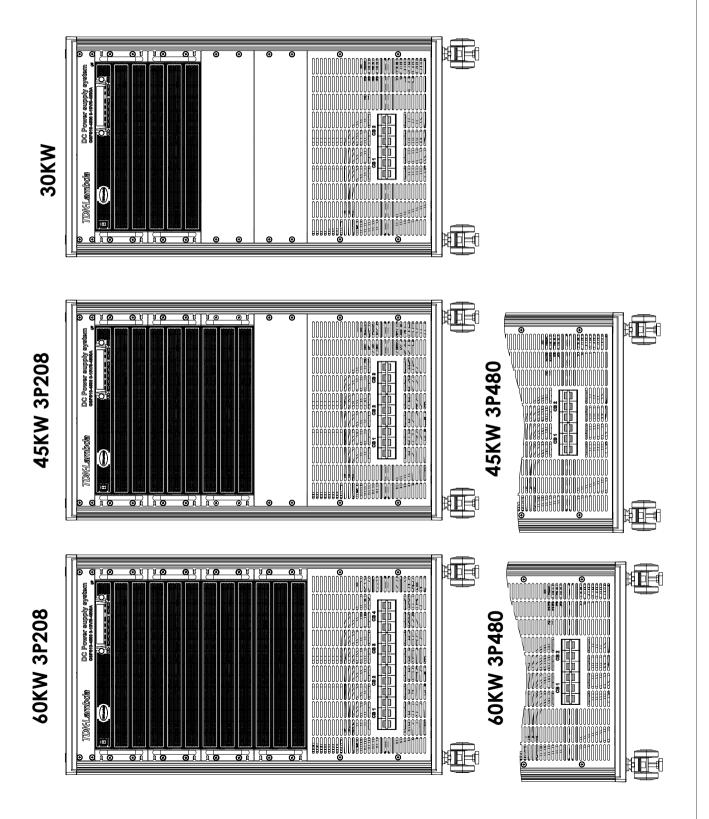
  \*5: 3-Phase 200V models: At 200Vac input voltage, 3-Phase 480V: At 380Vac input voltage. With rated output power.

- \*6: 3-Phase 200V models: 170–265Vac, 3-Phase 480V models: 342–528Vac. Constant load.
  \*7: From No-Load to Full-Load, constant input voltage. Measured at the sensing point in Remote Sense.
- \*8: The maximum voltage on the power supply terminals must not exceed the rated voltage.
- \*9: From 10% to 90% of Rated Output Voltage at rated resistive load.
- \*10: From 90% to 10% of Rated Output Voltage.
- \*11: For load voltage change, equal to the unit voltage rating, constant input voltage.
- \*12: The Constant Current programming, readback and monitoring accuracy do not include the warm-up and Load regulation thermal drift.
- \*13: Measured at the sensing point.
- \*14: For 10V model, Ta derating 2°C/100m.
- \*15: Signal and control ports interface cables length: Less than 3m, DC output power port cables length: Less than 30m.
- \*16: Max. ambient temperature for IEEE is 40C.
- \*17: For 10V model only: Max. output current for IEEE is 2700A up to 40C
- \*18: EMC specs based on GSP15kW series.
- \*19: For steady state only.

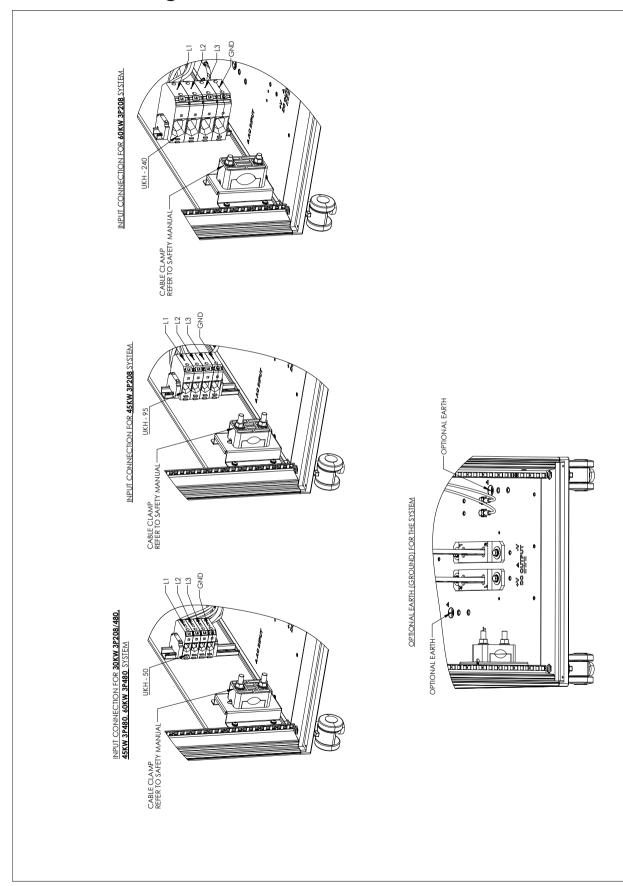
# Outline Drawing **GENESYS™** GSPS Series



# Outline Drawing **GENESYS™** GSPS Series



# Outline Drawing **GENESYS™** GSPS Series



#### NORTH AMERICA

TDK-Lambda Americas Inc 405 Essex Rd. Neptune, NJ 07753 Tel: +1-732-922-9300 Fax: +1-732-922-1441 E-mail: sales@us.tdk-lambda.com www.us.lambda.tdk.com

#### UK

TDK-Lambda UK Ltd.
Kingsley Avenue Ilfracombe, Devon
EX 34 8ES, United Kingdom
Tel: +44-1271-856666 Fax: +44-1271-864894
E-mail: info@uk.tdk-lambda.com
www.emea.lambda.tdk.com/uk

#### FRANCE

TDK-Lambda France SAS 3 Avenue du Canada, Parc Technopolis - Bâtiment Sigma, 91940 Les Ulis – France CS 41077 Tel: +33 1 60 12 71 65 Fax: +33 1 60 12 71 66 E-mail: france@fr.tdk-lambda.com www.emea.lambda.tdk.com/fr

#### GERMANY

TDK-Lambda Germany GmbH Karl-Bold-Str.40, D-77855 Achern, Germany Tel: +49-7841-666-0 Fax: +49-7841-500-0 E-mail: info.germany@de.tdk-lambda.com www.emea.lambda.tdk.com/de

#### **AUSTRIA**

TDK-Lambda Germany GmbH Austria Sales Office Aredstrasse 22, 2544 Leobersdorf, Austria Tel: +43-2256-65584 Fax: +43-2256-64512 E-mail: info@at.tdk-lambda.com www.emea.lambda.tdk.com/at

#### **ITALY**

TDK-Lambda France Sas Succursale Italiana Via Giacomo Matteotti 62, 20092 Cinisello Balsamo (MI), Italia Tel: +39-02-6129-3863 Fax: +39-02-6129-0900 E-mail: info.italia@it.tdk-lambda.com www.emea.lambda.tdk.com/it

#### ISRAEL

TDK-Lambda Ltd.
Sales Office: Alexander Yanai 1, Petah Tikva, 4927701, ISRAEL Tel: +972-3-9024-333 Fax: +972-3-9024-777
Plant: 56 Haharoshet St.,
Karmiel Industrial Zone 2165158, Israel
Tel: +972-4-9887-491 Fax: +972- 4-9583-071
www.emea.lambda.tdk.com/il E-mail: info@tdk-lambda.co.il

#### Switzerland

TDK-Lambda Germany GmbH Switzerland Sales Office, Eichtalstr. 55 8634 Hombrechtikon - Switzerland Tel: +41 44 850 53 53 E-mail: info@ch.tdk-lambda.com www.emea.lambda.tdk.com/ch

#### Denmark

TDK-Lambda Nordic
Haderslevvej 36B, DK-6000 Kolding, Denmark
TEL: +45-8853-8086
E-mail: info@dk.tdk-lambda.com
www.emea.lambda.tdk.com/dk

#### JAPAN

TDK-Lambda Corporation Nihonbashi Takashimaya Mitsui Bldg. 2-5-1 Nihonbashi, Chuo-ku, Tokyo 103-6128, JAPAN TEL: +81-3-6778-1113 FAX: +81-3-6778-1160 www.ip.lambda.tdk.com

#### CHINA

TDK-Lambda (China) Electronics Co. Ltd, Shanghai Office 5th Floor Kehui Tower, 1188 Qinzhou Road (North), Xuhui District Shanghai 200233, China Tel: +86-21-6485-0777 Fax: +86-21-6485-0666 www.lambda.tdk.com.cn

Beijing Branch of TDK-Lambda (China) Electronic Co. Ltd. Room 12B11-12B12, Unit 7 Dacheng square, No.28 Xuanwumenxi Street, Xuanwu District Beijing, 100053, CHINA Tel: +86-10-6310-4872 Fax: +86-10-6310-4874 www.lambda.tdk.com.cn

Shenzhen Branch of TDK-Lambda (China) Electronics Co.Ltd. 69/F, Ping An Finance Centre, 5033 Yitian Road, Futian District, Shenzhen, China
Tel: +86-755-83588261 Fax: +86-755-83588260
www.lambda.tdk.com.cn

#### KOREA

TDK-Lambda Corporation Korea Branch Seocho-Dong,12F. Songnam Bldg. 273, Gangnam Daero, Seocho-Gu, Seoul 06730, Republic of Korea Tel: +82-2-3473-7051 Fax: +82-2-3472-9137 www.lambda.tdk.co.kr

#### **SINGAPORE**

TDK-Lambda Singapore Pte.Ltd. Blk 1008 Toa Payoh North # 07-01/03 Singapore 318996 Tel: +65-6251-7211 Fax: +65-6250-9171 www.sg.lambda.tdk.com

#### INDIA

TDK India Private Limited. Power Supply Division #87, The Centrum, 4th Floor, Infantry Road, Bengaluru, Karnataka, -560 001, INDIA Tel: +91-80-40390660 Fax: +91-80-40390603

#### MALAYSIA

TDK-Lambda Malaysia Sdn. Bhd. (Nilai Office) c/o TDK (Malaysia) Sdn. Bhd., Lot 709, Nilai Industrial Estate 71800 Nilai, Negeri Sembilan, MALAYSIA TEL: +60-6-797-8800 Fax: +60-6-797-8966

Series Rev. A

A797-04-06



