Genesy

New! 800V, 1000V, 1250V and 1500V models - 10kW/15kW - 208VAC/400VAC/480VAC **Programmable DC Power Supplies** Full-Rack 10kW/15kW in 3U Height Built in RS-232 & RS-485 Interface Parallel Operation (Basic or Advanced)

**Optional Interfaces:** LAN ( LX) compliant w/ Multi-Drop) IEEE (488.2 & SCPI compliant w/ Multi-Drop) USB (2.0 w/ Multi-Drop) Isolated Analog (5V/10V or 4-20mA Pgm/Mon)



Genesys™ Family

**GENH-1U 750W Half-Rack** 

GEN-1U 750W/1.5kW/2.4kW Full-Rack

GEN-2U 3.3kW/5.0kW Full-Rack GEN-3U 10kW/15kW Full-Rack

TDK·Lambda

www.us.tdk-lambda.com/hp

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

## Features include:

- High Power Density 10kW/15kW in full-rack 3U package
- High Output Current (up to 1000ADC)
- Popular worldwide 3Φ AC inputs, (208VAC, 400VAC, 480VAC)
- Power Factor 0.88 (Passive PFC on all 3Φ AC Inputs)
- Output Voltage from 7.5V (1000A) to 1500V (10A)
- Built-in RS-232/RS-485 Serial Interface (standard)
- Last Setting Memory, Safe/Auto-ReStart, Front Panel Lock/Unlock
- "Advanced Parallel" configuration reports total system current (up to four identical units)
- Global Commands for RS-232/RS-485 Serial Interface
- Continuous Encoders for Voltage and Current Adjustment (Coarse & Fine mode)
- Independent Remote SHUTOFF and Remote ENABLE/DISABLE
- 19" Rack Mounted for ATE and OEM Applications, zero-stack capability
- Optional Interfaces

Compliant LAN (Class C) w/ Multi-Drop capability: option for all models IEEE (488.2 & SCPI compliant) w/ Multi-Drop capability: option for all models

USB (2.0) w/ Multi-Drop capability: option for all models

Isolated Analog Programming and Monitoring Interface

0-5V/0-10V: option for models with Vout  $\leq$  600V, standard for models with Vout  $\geq$  800V

4-20mA: option for all models

- LabView<sup>™</sup> and LabWindows<sup>™</sup> Software Drivers
- Worldwide Safety Agency Approvals; UL Recognized and CE Mark for LV, EMC and RoHS2 Directives (208VAC (all models), 400VAC (all models) and 480VAC models (30V ≤ Vout ≤ 1500V))
- Five Year Warranty





## **Applications**

**Genesys<sup>TM</sup>** power supplies are designed for demanding applications.

**Test & Measurement** systems using GPIB control save significant costs by incorporating the optional IEEE Multi-Drop Interface (IEMD) in the Master unit. This allows up to 30 Slave units to be used with the standard RS-485 Multi-Drop Serial interface.

**Automated System** designers will appreciate new, standard, remote programming features such as Global commands. Also, new high-speed status monitoring is available for the standard RS-485 and optional LAN (LXI compliant) Interface.

**Industrial & Military** high power systems can be configured with up to four identical units in parallel (up to 60kW). No space is required above or below each power supply (zero-stack). The Master unit can be configured by the user to report the total Output current of the combined system. Applications include Heaters, Magnets and Laser Diodes.

Aerospace & Satellite Testing systems use the complete Genesys™ Family: <u>1U</u>-750W Half-Rack, <u>1U</u>-750W/ 1.5kW/2.4kW Full-Rack, <u>2U</u>-3.3kW/5kW Full-Rack and <u>3U</u>-10kW/15kW Full-Rack. All are identical in Front Panel, Rear Panel Analog and Digital Interface commands. A wide variety of Outputs (voltage and current) allows testing of many different user configurations.

**Component Device Testing** is simplified because of the many user-friendly control options in the Analog and Digital interfaces. Lamps, capacitors, motors and actuators are typical devices tested.

**Medical Imaging and Treatment** systems require reliable power. Modular construction, SMT and thoroughly proven designs assure continuous performance at full rated power.

**Semiconductor Processing & Burn-in** equipment designers appreciate the wide variety of worldwide AC Inputs and DC Outputs from which to select, depending on application. Selectable Safe-Start and Auto Re-Start protects loads and process integrity. Typical applications include Magnets, Filaments and Heaters.

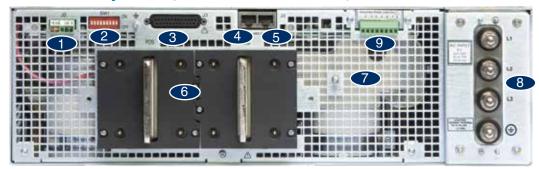
## Front Panel Description (7.5V $\leq$ Vout $\leq$ 25V)



- 1. AC ON/OFF Switch (circuit breaker for Vout  $\leq$  25V; rocker switch for Vout  $\geq$  30V models)
- 2. Air Intake allows zero-stacking for maximum system flexibility and power density.
- 3. Continuous encoder controls Output Voltage, Address, OVP and UVL settings.
- 4. Voltage Display shows Output Voltage and directly displays OVP, UVL and Address settings.
- 5. Continuous encoder controls Output Current, sets Baud rate and Advanced Parallel mode.
- 6. Current Display shows Output Current and displays Baud rate. Displays total current in Parallel Master/Slave Mode.
- 7. Function/Status LEDs:
  - Alarm
- Fine Control
- Preview Settings

- Foldback Mode
- Remote Mode
- Output On
- 8. Pushbuttons allow flexible user configuration
  - Coarse and Fine adjustment of Output Voltage/Output Current and Advanced Parallel Master or Slave select.
  - Preview Settings and set Voltage/Current with Output OFF, Front Panel Lock/Unlock.
  - Parallel Master/Slave (Basic and Advanced).
  - Set Output OVP and UVL Limits.
  - Set Output Current Foldback Protection.
  - Go to Local Mode and select unit Address and Baud rate.
  - Output ON/OFF and Safe-Start/Auto Re-Start mode.

## Rear Panel Description (7.5V $\leq$ Vout $\leq$ 25V)



- 1. Remote/Local Output Voltage Sense Connections.
- 2. DIP Switches select 0-5V or 0-10V Programming and other functions.
- 3. DB25 (Female) connector allows Analog Program and Monitor (non-isolated) and other functions.
- RS-485 OUT to other Genesys<sup>™</sup> Power Supplies.
- 5. RS-232/RS-485 IN Remote Serial Programming.
- 6. Output Connectors: Rugged 2 hole busbars (shown) for models where Vout < 30V, single hole busbars for 30V ≤ Vout ≤ 300V Output, and threaded-stud terminals for models where Vout > 300V.
- 7. Exit air assures reliable operation when zero-stacked.
- 8. Input Terminals L1, L2, L3, and Ground (threaded studs).
- 9. Optional location for LAN (LXI Class C), IEEE (488.2 & SCPI compliant), USB (2.0) or Isolated Analog Interface.

Genesvs <sup>™</sup>	211	10kW	Specifica	tions
Genesys	30	IUNVV	SUECITICA	IUUIIS

V

ppm / °C

ms

ms

ms

± 200 (± 0.02% of Vo(rated)) / °C

enesys so lukw spec	,,,,,	aliU	113											10kW
1.0 MODEL	GEN	7.5-1000	10-1000 1	2.5-800	20-500	25-400	30-333	40-250	50-200	60-167	80-125	100-100	125-80	X
1.Rated Output Voltage	VDC	7.5	10	12.5	20	25	30	40	50	60	80	100	125	Х
2.Rated Output Current	ADC	1000	1000	800	500	400	333	250	200	167	125	100	80	Х
3.Rated Output Power	kW	7.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	X
4.Efficiency (min) at low AC line, 100% Rated Load	%	77						83						X
					C	ontact Fac	ctory for o	ther mod	els					X
1.1 CONSTANT VOLTAGE MODE (CV)														
1. Max. Line Reg (0.1% - Vor ≤ 30V; 0.05% - 30V < Vor ≤ 600V; 0.05% - 600V < Vor ≤ 1500V)	mV	7.5	10	12.5	20	25	30	20	25	30	40	50	62.5	х
2. Max. Load Reg (0.1% for Vor ≤ 30V; 0.05% for 30V < Vor ≤ 600V; 0.1% for 600V < Vor ≤ 1500V); (*5)	mV	7.5	10	12.5	20	25	30	20	25	30	40	50	62.5	х
3. Output Ripple, rms (5Hz~1MHz), CV mode; (*1)	mV	20	20	20	20	20	20	20	20	20	25	25	25	Х
4. Output Noise, p-p (20MHz), CV mode; (*1)	mV	60	60	60	60	60	60	60	75	75	100	100	125	Х

1.5

 $\pm$  0.05% of Vo(rated) over 8 hours after 30 minute warm up (constant Line, Load & Temperature)

100

50

Less than 3

4

#### 10. Transient Response Time (CV mode); (\*2), (\*4) 1.2 CONSTANT CURRENT MODE (CC)

8. Up-Prog. Response Time, 0 ~ Vomax, full-load

9. Up-Prog. Response Time, 0~Vomax, no-load

5.Remote Sense Compensation / Wire

6. Temperature Stability

7. Temperature Coefficient

IL CONCIANT CONTIENT MODE (CC)														
1. Max. Line Reg. (0.1% - lor ≥ 333A; 0.050% - 17A < lor < 333A; 0.15% - lor < 17A)	mA	1000	1000	800	500	400	333	125	100	83.5	62.5	50	40	х
2. Max. Load Reg (0.1% - lor ≥ 333A; 0.075% - 17A ≤ lor < 333A; 0.2% - lor < 17A); (*3), (*5)	mA	1000	1000	800	500	400	333	188	150	125	94	75	60	Х
3. Output Ripple, rms (5Hz~1MHz), CC mode	mA	5300	4000	2560	1000	640	444	250	160	67	50	40	32	Х
4. Temperature Stability		± 0.05%	of lo(rate	ed) over 8	hours, af	ter 30 mir	nute warm	up (cons	stant Line	, Load &	Temperatur	re)		Х
5. Temperature Coefficient	ppm/°C	± 300 (:	± 0.03% c	f lo(rated)	) / °C									Х

#### 1.3 PROTECTIVE FUNCTIONS

1.3 PROTECTIVE PONCTIONS			
1. OCP	%	0 ~ 100	X
2. OCP type		Constant current	X
3. Foldback Protection (FOLD)		Output shutdown; Manual reset by front panel OUT button or Digital communication, user-selectable	X
4. Foldback Response Time	S	Less than 1 (Min = 0.25 / Max = 25 / Default = 0.25); Settable via "FBD" command	X
5. OVP type		Inverter shut-down; Manual reset by AC On/Off recycle, OUT button, Remote Analog or Digital communication	X
6. OVP Programming Accuracy	%	± 5% of Vo(rated)	X
7. OVP Trip Point	٧	5% to 105% of Vo(rated) for Vor ≤ 600V; 10% to 105% of Vo(rated) for 600V < Vor ≤ 1500V Shall always be greater than 105% of Vo(setting); Default = 105% of Vo(rated)	х
8. OVP Response Time	ms	Less than 10 (for Output to begin to drop) for Vor ≤ 600V Less than 2.0 (for Output to begin to drop) for 600V < Vor ≤ 1500V	х
9. Max. OVP Reset Time	S	7 (from AC On/Off switch turn On)	X
10. Over-Temperature Protection (OTP)		Shut down if internal temperature exceeds safe operating levels (Latched: Safe / Unlatched: Auto)	X
11. Phase-Loss Protection		Yes, power supply shutdown (Latched: Safe-Start / Unlatched: Auto-Restart)	X

#### 1.4 REMOTE ANALOG CONTROLS & SIGNALS

Vout Voltage Programming	0~100%, 0 ~ 5V or 0 ~ 10V, user-selectable., Accuracy & Linearity: ±1% of Vo(rated)	X
2. lout Voltage Programming	0~100%, 0 ~ 5V or 0 ~ 10V, user-selectable, Accuracy & Linearity: ± 1% of lo(rated)	X
Vout Resistor Programming	0~100%, 0 ~ 5/10kohm full-scale, user-selectable, Accuracy & Linearity: ± 1% of Vo(rated)	X
4. lout Resistor Programming	0~100%, 0 ~ 5/10kohm full-scale, user-selectable, Accuracy & Linearity: ± 1% of lo(rated)	X
5. Shut-Off (SO) Control (rear panel)	By Voltage: 0.6V = DIS, 2-15V = ENA (default) or by Dry Contact: Open = ENA, Short = DIS (user-selectable logic)	X
6. Output Current Monitor	0 ~ 5V or 0 ~ 10V, Accuracy: ± 1% of lo(rated), user-selectable	X
7. Output Voltage Monitor	0 ~ 5V or 0 ~ 10V, Accuracy: ± 1% of Vo(rated), user-selectable	X
8. Power Supply OK (PS_OK) Signal	Yes. TTL High = OK, 0V = Fail (500ohm series impedance)	X
9. CV/CC Signal	CV: TTL High (4 ~ 5V), Max source current = 10mA; CC: TTL Low (0 ~ 0.4V), Max sink current = 10mA	X
10. Enable/Disable	Dry contact; Open = OFF, Short = ON; Maximum voltage across Enable/Disable contacts = 6V	X
11. Remote/Local Selection	Selects Remote or Local operation by voltage: 0 ~ 0.6V = Local / 2 ~ 15V = Remote	X
12. Remote/Local Signal	Signals operating mode; Open collector: Local = Open (Max voltage = 30V), Remote = On (Max sink current = 10mA)	X

### 1.5 FRONT PANEL

I.S PHONT FANLE		
1.Control Functions	Vout/ lout manual adjust by separate encoders (COARSE and FINE adjustment selectable)	X
	OVP/UVL manual adjust by VOLTAGE Adjust encoder, Front Panel Lock/Unlock	Х
	Address selection by VOLTAGE Adjust encoder. # of Addresses = 31	Х
	AC ON/OFF, Output On/Off, Restart Modes (Auto/Safe), Foldback Control (CV to CC), Go-to-Local	Х
	RS-232/RS-485, LAN, IEEE (IEMD) and USB selection by rear panel DIP-switch	Х
	Baud rate selection (RS-232/RS-485 only): 1200, 2400, 4800, 9600 and 19,200 (by CURRENT Adjust encoder)	Х
	Advanced Parallel Master/Slave: Hx = Master unit, where x = # of Slave units (0 to 4), S = Slave unit(s)	Х
2.Display	Voltage: 4 digits, Accuracy: ± 0.5% of Vo(rated) ±1 count	X
	Current: 4 digits, Accuracy: ± 0.5% of lo(rated) ±1 count	Х
	VOLTAGE meter displays voltage at power supply (Local sense) or at load (Remote sense)	Х
3.Indications	Green LED's: PREVIEW, FOLD, REM/LOCAL, OUT ON/OFF, CV/CC, FINE Red LED: ALARM (OVP, OTP, FOLD, AC FAIL, ENA, SO)	х

#### 1.6 DIGITAL PROGRAMMING & READBACK

Vout Programming Accuracy	± 0.5% of Vo(rated)	X
2. Iout Programming Accuracy	± 0.5% of lo(rated) for units with lo < 187.5A; ± 0.7% of lo(rated) for lo ≥187.5A	X
3. Vout Programming Resolution	0.02% of Vo(rated)	X
4. lout Programming Resolution	0.04% of lo(rated)	X
5. Vout Readback Accuracy	± (0.1% of Vo(actual) + 0.2% of Vo(rated))	X
6. lout Readback Accuracy	± (0.1% of lo(actual) + 0.4% of lo(rated))	X
7. Vout Readback Resolution	0.02% of Vo(rated)	X
8. lout Readback Resolution	0.02% of lo(rated)	X
9. OV Response Time	20ms maximum (between Vout exceeding IEEE Limit and supply Inhibit turning On)	X
10. Other Functions	Set OVP/UVL limits; Set Local/Remote, Operating parameters and Status, Get Identity	X

<sup>\*1</sup> Ripple and Noise at Vo(rated) and rated Load, Ta = +25C and nominal AC Input per EIJ R900A.

<sup>\*2.</sup> Time for the Output voltage to recover within 2% of rating for a load current change of 50~100% or 100-50% of lo(rated).
\*3 .From 20% - 100% for models with lor < 17A.

<sup>\*4</sup> Operating with a load that continuously pulses the current (or voltage) can reduce the operating life of the Power Supply. Please contact TDK-Lambda Sales/Technical Support to discuss the application in detail.

<sup>\*5.</sup> CV Mode: from 5% to 100% of Irated (over 5% to 100% of Prated); CC Mode: from 20% to 100% of Vrated (over 20% to 100% of Prated). All specifications subject to change without notice.

Genesvs<sup>™</sup> 3U 10kW Specifications

1.0 MODEL	GEN	150-66	200-50		300-33	400-25	500-20		800-12.5		1250-8	1500-6.7	1
1.Rated Output Voltage	VDC	150	200	250	300	400	500	600	800	1000	1250	1500	1
2.Rated Output Current	ADC	66	50	40	33	25	20	17	12.5	10	8.0	6.7	-
3.Rated Output Power	kW	9.9	10.0	10.0	9.9	10.0	10.0	10.2	10.0	10.0	10.0	10.0	
4.Efficiency (min) at low AC line, 100% Rated Load	%				83					9	93.5		-
1.1 CONSTANT VOLTAGE MODE (CV)					Conf	act Facto	ry for othe	r models					
1. Max. Line Reg (0.1% - Vor ≤ 30V; 0.05% - 30V < Vor ≤ 600V; 0.05% - 600V < Vor ≤ 1500V)	mV	75	100	125	150	200	250	300	400	500	625	750	2
2. Max. Load Reg (0.1% - Vor ≤ 30V; 0.05% - 30V < Vor ≤ 600V; 0.1% - 600V < Vor ≤ 1500V); (*5)	mV	75	100	125	150	200	250	300	800	1000	1250	1500	:
3. Output Ripple, rms (5Hz~1MHz), CV mode; (*1)	mV	25	35	35	60	60	60	60	80	100	120	140	
4. Output Noise, p-p (20MHz), CV mode; (*1)	mV	150	175	200	200	300	350	350	700	800	1000	1400	
5.Remote Sense Compensation / Wire	V	5	5	5	5	5	5	5	5	5	5	5	
S. Temperature Stability						fter 30 m	nute warr	n up (con	stant Line,	Load & Te	emperature	)	
7. Temperature Coefficient	ppm / °C	± 200 (	0.02% of	Vo(rated)									╙
B. Up-Prog. Response Time, 0~Vomax, full-load	ms				100						7		_
9. Up-Prog. Response Time, 0~Vomax, no load	ms				50						7		
0. Transient Response Time (CV mode); (*2), (*4)	ms				ess than	3				Less t	than 1		L
.2 CONSTANT CURRENT MODE (CC)													
. Max. Line Reg. (0.1% - Ior ≥ 333A; 0.050% - 17A < Ior < 33A; 0.15% - Ior < 17A)	mA	33	25	20	17	13	10	9	19	15	12	10	
2. Max. Load Reg (0.1% - Ior ≥ 333A; 0.075% - 17A ≤ Ior < 333A; 0.2% - Ior < 17A); (*3), (*5)	mA	50	38	30	25	19	15	13	25	20	15	14	
B. Output Ripple, rms (5Hz~1MHz), CC mode	mA	26	20	16	13	10	8	7	15	10	6	4	
I. Temperature Stability			6 of Io Ra	ited over	8 hours a	fter 30 mi	nute warm			Load & Te	mperature)		
i. Temperature Coefficient	ppm / °C		0.03% of						,		,		╁
.3 PROTECTIVE FUNCTIONS				, )									•
OCP	%	0 ~ 100								-			Т
. OCP			nt current		-								┢
s. Foldback Protection (FOLD)					I recet by	front nan		tton or Di	nital comm	nunication	user-selec	table	╁
R. Foldback Response Time	s								a "FBD" co		- user-selec	- LUDIO	╁
i. Polaback Response Time i. OVP type											or Digital c	omm	┢
OVP Programming Accuracy	%		f Vo(rated		ai iesei b	/ AC OII/C	ni recycle	, 001 bu	uon, nemo	ne Analog	or Digital C	OITIIII.	$\vdash$
• • •					for Vor <	600\/- 109	% to 105%	of Vo(rat	ted) - 600V	/ - Vor - 1	5001/		1
OVP Trip Point	٧	Shall al	ways be	greater th	an 105%	of Vo(sett		ult = 1059	6 of Vo(rate				
B. OVP response time  D. Max. OVP reset time	ms	Less th		r Output	to begin t		r 600V < \		OV				┞
10. Over-Temperature Protection (OTP)	s 	-				vooodo or	fo operati	na levele	/L atabadi	Cofo / Lini	atabad: Aud	to)	$\vdash$
11. Phase-Loss Protection		-							uto-Restar		atched: Aut	10)	
		165, po	wei supp	iy Siluluo	WII (Lateri	eu. Jaie-	Jiait / Oili	attrieu. A	ulo-nesiai	ij			
I.4 REMOTE ANALOG CONTROLS & SIGNALS													_
I. Vout Voltage Programming	0~100%,												
2. lout Voltage Programming	0 ~ 100%												_
3. Vout resistor programming									of Vo(rate				L
4. lout Resistor Programming									of lo(rated		a a la ata b la l	lasia\	┝
5. Shut-Off (SO) Control (rear panel) 6. Output Current Monitor								en = EN/	4, Short =	DIS (user-	selectable l	iogic)	H
7. Output Voltage Monitor	0 ~ 5V or									-			H
B. Power Supply OK (PS_OK) Signal	0 ~ 5V or												-
R Power Supply OK (PS OK) Signal	Yes. TTL I							(0 0 4)	/\ May siml	l. a	10 1		╀
	I CA: LIFE								), Max sinl		IUIIIA		$\vdash$
D. CV/CC Signal	Dry cont-			hort O		much				1UIS = 6V			1
D. CV/CC Signal IO. Enable/Disable	Dry conta	<del></del> _											${}^{\dagger}$
D. CV/CC Signal  D. Enable/Disable  1. Remote/Local Selection	Selects R	emote or	Local op	eration by	/ voltage:	0 ~ 0.6V	Local /	2 ~ 15V =	Remote		sink ourre	nt = 10m^\	F
CV/CC Signal     Enable/Disable     Remote/Local Selection     Remote/Local Signal	Selects R	emote or	Local op	eration by	/ voltage:	0 ~ 0.6V	Local /	2 ~ 15V =	Remote		sink currer	nt = 10mA)	
D. CV/CC Signal D. Enable/Disable Remote/Local Selection Remote/Local Signal FRONT PANEL	Selects R Signals o	emote or perating r	Local op node; Op	eration by en collec	/ voltage: tor: Local	0 ~ 0.6V = Open (I	= Local / Max voltag	2 ~ 15V = ge = 30V)	Remote :	= On (Max	sink currer	nt = 10mA)	
D. CV/CC Signal D. Enable/Disable Remote/Local Selection Remote/Local Signal FRONT PANEL	Selects R Signals of	emote or perating r manual a	Local op mode; Op adjust by	eration by en collec separate	voltage: tor: Local encoders	0 ~ 0.6V = Open (I	Local / Max voltage E and FIN	2 ~ 15V = ge = 30V) E adjustr	Remote :	= On (Max	sink currer	nt = 10mA)	
D. CV/CC Signal D. Enable/Disable Remote/Local Selection Remote/Local Signal FRONT PANEL	Selects R Signals of Vout/ lout OVP/UVL	emote or perating r manual a manual a	Local op mode; Op adjust by adjust by	eration by en collec separate VOLTAGI	voltage: tor: Local encoders Adjust e	0 ~ 0.6V = Open (I (COARS ncoder, F	= Local / Max voltage E and FIN ront Pane	2 ~ 15V = ge = 30V) E adjustr	Remote :	= On (Max	sink currer	nt = 10mA)	E
D. CV/CC Signal D. Enable/Disable Remote/Local Selection Remote/Local Signal FRONT PANEL	Selects R Signals of Vout/ lout OVP/UVL Address s	emote or perating remanual a manual a selection I	Local op mode; Op adjust by adjust by by Voltage	eration by en collect separate VOLTAGI e Adjust e	voltage: tor: Local encoders Adjust e	0 ~ 0.6V = Open (I (COARS ncoder, F of Addres	E and FIN ront Pane sses = 31	2 ~ 15V = ge = 30V) E adjustr I Lock/Un	Remote , Remote = ment select lock	= On (Max table)		nt = 10mA)	
D. CV/CC Signal D. Enable/Disable Remote/Local Selection Remote/Local Signal FRONT PANEL	Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O	emote or perating r manual a manual a selection I	Local op mode; Op adjust by adjust by by Voltago at On/Off,	eration by en collect separate VOLTAGI e Adjust e Restart I	encoders Adjust eencoder. #	0 ~ 0.6V = Open (I (COARS ncoder, F of Addresuto/Safe),	E and FIN ront Pane sses = 31 Foldback	2 ~ 15V = ge = 30V) E adjustr I Lock/Un Control (	Remote = nent selections (CV to CC),	= On (Max table)		nt = 10mA)	
D. CV/CC Signal D. Enable/Disable Remote/Local Selection Remote/Local Signal FRONT PANEL	Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F	emote or perating r manual a manual a selection I FF, Outputs: 18-485, La	Local op mode; Op adjust by adjust by by Voltage ut On/Off, AN, IEEE	eration by en collect separate VOLTAGI e Adjust e Restart I	encoders Adjust e encoder. # Modes (Al	0 ~ 0.6V = Open (I (COARS ncoder, F of Addresuto/Safe), selection	E and FIN ront Pane sses = 31 Foldback by rear-pa	2 ~ 15V = ge = 30V) E adjustr Lock/Un Control (inel DIP-s	= Remote , Remote = ment select lock CV to CC), witch	= On (Max table)	cal		
. CV/CC Signal 0. Enable/Disable 1. Remote/Local Selection 2. Remote/Local Signal .5 FRONT PANEL	Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/R Baud rate	manual a selection IFF, Output IS-485, La selectior	Local op mode; Op adjust by adjust by by Voltago at On/Off, AN, IEEE a (RS-232	en collector separate VOLTAGI e Adjust e Restart I (IEMD) a	encoders Adjust e encoder. # Modes (Au and USB s only): 120	O ~ 0.6V = Open (I (COARS ncoder, F of Addresuto/Safe), selection 00, 2400,	E and FIN ront Pane sses = 31 Foldback by rear-pa	2 ~ 15V = ge = 30V) E adjustr I Lock/Un Control (inel DIP-s 0 and 19	Remote =	= On (Max table) Go-to-Loc	cal Adjust encc	oder)	
D. CV/CC Signal D. Enable/Disable I. Remote/Local Selection E. Remote/Local Signal FRONT PANEL Control Functions	Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/R Baud rate Advanced	manual a selection I FF, Output IS-485, La selectior I Parallel	Local op mode; Op adjust by adjust by by Voltage ut On/Off, AN, IEEE n (RS-232 Master/S	en collecton by en collecton separate VOLTAGI e Adjust e Restart I (IEMD) a 2/RS-485 lave: Hx =	encoders Adjust e encoder. # Modes (Au and USB s only): 120	O ~ 0.6V = Open (I (COARS ncoder, F of Addres uto/Safe), selection 00, 2400, unit, where	E and FIN ront Pane sses = 31 Foldback by rear-pa 4800, 960 e x = # of	2 ~ 15V = ge = 30V) E adjustr I Lock/Un Control (inel DIP-s 0 and 19	Remote =	= On (Max table) Go-to-Loc	cal	oder)	
D. CV/CC Signal D. Enable/Disable I. Remote/Local Selection E. Remote/Local Signal FRONT PANEL Control Functions	Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advanced Voltage: 4	manual a manual a manual a manual a manual a selection left, Outputs-485, La selection left digits, Adigits, Ad	Local op mode; Op adjust by adjust by by Voltage at On/Off, AN, IEEE a (RS-232 Master/S ccuracy:	eration by en collect separate VOLTAGI e Adjust e Restart I (IEMD) a 2/RS-485 lave: Hx = ± 0.5% o	voltage: tor: Local encoders Adjust e encoder. # Modes (Ar and USB s only): 120 Master u f Vo(rated	0 ~ 0.6V = Open (I  (COARS ncoder, F of Addresuto/Safe), selection 100, 2400, unit, where 1) ±1 coun	E and FIN ront Pane sses = 31 Foldback by rear-pa 4800, 960 e x = # of	2 ~ 15V = ge = 30V) E adjustr I Lock/Un Control (inel DIP-s 0 and 19	Remote =	= On (Max table) Go-to-Loc	cal Adjust encc	oder)	
D. CV/CC Signal D. Enable/Disable I. Remote/Local Selection E. Remote/Local Signal FRONT PANEL Control Functions	Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F RS-232/F Advanced Voltage: 4 Current: 4	manual a manual a manual a manual a election l FF, Outputs-485, La selection I Parallel a digits, Ac digits, Ac	Local op mode; Op adjust by adjust by by Voltagu at On/Off, AN, IEEE n (RS-232 Master/S couracy: couracy: couracy:	eration by en collect separate VOLTAGI a Adjust a Restart I (IEMD) a L/RS-485 lave: Hx = ± 0.5% of	v voltage: tor: Local encoders Adjust e encoder. # Modes (Al and USB e only): 120 Master t f Vo(rated lo(rated)	0 ~ 0.6V = Open (I (COARS ncoder, F of Addre: uto/Safe), selection 10, 2400, unit, where 1 ± 1 count	E and FIN ront Pane sses = 31 Foldback by rear-pa 4800, 960 e x = # of	2 ~ 15V = 2 c 15V = 30V)  E adjustr I Lock/Un  Control (In pel DIP-s of and 19)  Slave uni	Remote =	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
D. CV/CC Signal D. Enable/Disable Enable/Local Selection D. Remote/Local Signal D. FRONT PANEL D. Control Functions  D. Display D. Display	Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Voltage: 4 Current: 4 VOLTAGE	emote or perating r manual a manual a selection l FF, Outpu SS-485, Lu selectior I Parallel digits, Ad digits, Ad	Local op mode; Op adjust by adjust by by Voltage at On/Off, AN, IEEE a (RS-232 Master/S ccuracy: ccuracy:	separate VOLTAGI e Adjust e Restart I (IEMD) a 2/RS-485 lave: Hx = ± 0.5% of blage at p	v voltage: tor: Local encoders E Adjust e encoder. # Modes (At and USB e only): 120 Master L V Vo(rated Lo(rated) bower sup	0 ~ 0.6V = Open (I  (COARS ncoder, F of Addre: tto/Safe), selection (0, 2400, unit, where t) ±1 count ±1 count ply (Local	E and FIN ront Pane sses = 31 Foldback by rear-pa 4800, 960 e x = # of t sense) o	2 ~ 15V = 2 c = 30V)  E adjustr I Lock/Un  Control (In person of 19 selection	Remote : Rem	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
. CV/CC Signal 0. Enable/Disable 1. Remote/Local Selection 2. Remote/Local Signal 5. FRONT PANEL Control Functions	Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/R Baud rate Advanced Voltage: 4 Current: 4 VOLTAGE Green LE	manual a manual a manual a selection l FF, Outpu S-485, Lu selectior l Parallel digits, Ad digits, Ad meter di D's: PRE	Local op mode; Op adjust by adjust by by Voltage at On/Off, AN, IEEE a (RS-232 Master/S ccuracy: ccuracy: splays vo VIEW, FC	eration by en collect separate VOLTAGI e Adjust e Restart I (IEMD) e 2/RS-485 lave: Hx = ± 0.5% of bltage at p DLD, REI	encoders Adjust e encoder. # Modes (Al and USB e only): 120 Master t Vo(rated lo(rated) bower sup M/LOCAL	0 ~ 0.6V = Open (I  (COARS ncoder, F of Addre: tto/Safe), selection 0, 2400, init, where 1 count ±1 count ply (Local OUT ON	E and FIN ront Pane sses = 31 Foldback by rear-pa 4800, 960 e x = # of t sense) o /OFF, CV/	2 ~ 15V = 2 c = 30V)  E adjustr I Lock/Un  Control (In person of 19 selection	Remote : Rem	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
. CV/CC Signal 0. Enable/Disable 1. Remote/Local Selection 2. Remote/Local Signal 5. FRONT PANEL Control Functions  . Display	Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Voltage: 4 Current: 4 VOLTAGE	manual a manual a manual a selection l FF, Outpu S-485, Lu selectior l Parallel digits, Ad digits, Ad meter di D's: PRE	Local op mode; Op adjust by adjust by by Voltage at On/Off, AN, IEEE a (RS-232 Master/S ccuracy: ccuracy: splays vo VIEW, FC	eration by en collect separate VOLTAGI e Adjust e Restart I (IEMD) e 2/RS-485 lave: Hx = ± 0.5% of bltage at p DLD, REI	encoders Adjust e encoder. # Modes (Al and USB e only): 120 Master t Vo(rated lo(rated) bower sup M/LOCAL	0 ~ 0.6V = Open (I  (COARS ncoder, F of Addre: tto/Safe), selection 0, 2400, init, where 1 count ±1 count ply (Local OUT ON	E and FIN ront Pane sses = 31 Foldback by rear-pa 4800, 960 e x = # of t sense) o /OFF, CV/	2 ~ 15V = 2 c = 30V)  E adjustr I Lock/Un  Control (In person of 19 selection	Remote : Rem	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
D. CV/CC Signal D. Enable/Disable 1. Remote/Local Selection 2. Remote/Local Signal	Selects R Signals of Vout/ lout OVP/UVL Address & AC ON/O RS-232/F Baud rate Advanced Voltage: 4 Current: 4 VOLTAGE Green LE Red LED:	manual a manual a manual a manual a selection I FF, Outpu SS-485, L. selectior I Parallel a digits, Ac digits, Ac digits, Ac meter di D's: PRE ALARM	Local op mode; Op adjust by adjust by by Voltagu at On/Off, AN, IEEE n (RS-232 Master/S ccuracy: ccuracy: splays vo VIEW, FC (OVP, OT	eration by en collect separate VOLTAGI e Adjust e Restart I (IEMD) e 2/RS-485 lave: Hx = ± 0.5% of bltage at p DLD, REI	encoders Adjust e encoder. # Modes (Al and USB e only): 120 Master t Vo(rated lo(rated) bower sup M/LOCAL	0 ~ 0.6V = Open (I  (COARS ncoder, F of Addre: tto/Safe), selection 0, 2400, init, where 1 count ±1 count ply (Local OUT ON	E and FIN ront Pane sses = 31 Foldback by rear-pa 4800, 960 e x = # of t sense) o /OFF, CV/	2 ~ 15V = 2 c = 30V)  E adjustr I Lock/Un  Control (In the properties of the propert	Remote : Rem	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
D. CV/CC Signal O. Enable/Disable 1. Remote/Local Selection 2. Remote/Local Signal5 FRONT PANELControl Functions  Display	Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advancec Voltage: 4 Current: 4 VOLTAGE Green LE Red LED:	manual a manual a manual a manual a manual a election I FF, Output IS-485, Lt selection I Parallel a digits, At digits, At meter di D's: PRE ALARM	Local op mode; Op adjust by adjust by by Voltag ut On/Off, AN, IEEE an (RS-232 Master/S couracy: couracy: couracy: couracy: couracy: couracy: couracy: couracy: couracy: couracy: couracy:	eration by en collectory collecto	encoders E Adjust e encoder. # Modes (Ai and USB : Master L f Vo(rated lo(rated) ower sup M/LOCAL AC FAIL,	0 ~ 0.6V = Open (I	E and FIN Tont Pane sses = 31 Foldback by rear-pa 4800, 960 2 x = # of t sense) o /OFF, CV/	2 ~ 15V = ge = 30V) E adjustr I Lock/Un Control (In nel DIP-son and 19 Slave uni r at load (ICC, FINE	Remote : nent selectock  CV to CC), witch 1,200 (by Cl ts (0 to 4),	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
D. CV/CC Signal O. Enable/Disable 1. Remote/Local Selection 2. Remote/Local Signal 5 FRONT PANEL Control Functions  D. Display  B. Indications  L6 DIGITAL PROGRAMMING & READBACK Vout Programming Accuracy 2. Lout Programming Accuracy	Selects R Signals of Vout/ lout OVP/UVL Address S AC ON/O RS-232/R Baud rate Advancec Voltage: 4 Current: 4 VOLTAGE Green LE Red LED: ± 0.5% of ± 0.5% of	manual a manual a manual a manual a manual a delection I FF, Output IS-485, Lt selection I Parallel digits, Ac digits, Ac digits, Ac Manual a Manua	Local op mode; Op adjust by adjust by by Voltag ut On/Off, AN, IEEE an (RS-232 Master/S couracy: couracy: couracy: couracy: couracy: couracy: couracy: couracy: couracy: couracy:	eration by en collectory collecto	encoders E Adjust e encoder. # Modes (Ai and USB : Master L f Vo(rated lo(rated) ower sup M/LOCAL AC FAIL,	0 ~ 0.6V = Open (I	E and FIN Tont Pane sses = 31 Foldback by rear-pa 4800, 960 2 x = # of t sense) o /OFF, CV/	2 ~ 15V = ge = 30V) E adjustr I Lock/Un Control (inel DIP-so) 0 and 19 Slave uni r at load (inc, FINE	Remote : nent selectock  CV to CC), witch 1,200 (by Cl ts (0 to 4),	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
D. CV/CC Signal O. Enable/Disable 1. Remote/Local Selection 2. Remote/Local Signal FRONT PANEL Control Functions  D. Display  D. D	Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advancec Voltage: 4 VOLTAGE Green LE Red LED: ± 0.5% of ± 0.5% of 0.02% of	manual a manual a manual a manual a manual a manual a selection l FF, Outputs-485, Luselection l Parallel digits, Acting digits, Acting meter di D's: PRE ALARM  Vo(rated lo(rated) Vo(rated)	Local op mode; Op adjust by adjust by by Voltag ut On/Off, AN, IEEE an (RS-232 Master/S couracy: couracy: couracy: couracy: couracy: couracy: couracy: couracy: couracy: couracy:	eration by en collectory collecto	encoders E Adjust e encoder. # Modes (Ai and USB : Master L f Vo(rated lo(rated) ower sup M/LOCAL AC FAIL,	0 ~ 0.6V = Open (I	E and FIN Tont Pane sses = 31 Foldback by rear-pa 4800, 960 2 x = # of t sense) o /OFF, CV/	2 ~ 15V = ge = 30V) E adjustr I Lock/Un Control (inel DIP-so) 0 and 19 Slave uni r at load (inc, FINE	Remote : nent selectock  CV to CC), witch 1,200 (by Cl ts (0 to 4),	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
D. CV/CC Signal D. Enable/Disable D. Enable/Disable D. Remote/Local Selection D. Remote/Local Signal D. FRONT PANEL D. STRONT PANEL D. Control Functions  D. Display  D. Display  D. Display  D. Display D. Disp	Selects R   Signals open	manual a man	Local op mode; Op adjust by adjust by Voltago by Voltago at On/Off, AN, IEEE n (RS-232 Master/S ccuracy: splays vo VIEW, FC (OVP, OT	eration by en collectory collectory en collectory en collectory end of the collectory en	voltage: tor: Local encoders: Adjust e Adjust e Modes (Al and USB: only): 120: Master L f Vo(rated lo(rated) ower sup M/LOCAL AC FAIL,	0 ~ 0.6V = Open (I	E and FIN Tont Pane sses = 31 Foldback by rear-pa 4800, 960 2 x = # of t sense) o /OFF, CV/	2 ~ 15V = ge = 30V) E adjustr I Lock/Un Control (inel DIP-so) 0 and 19 Slave uni r at load (inc, FINE	Remote : nent selectock  CV to CC), witch 1,200 (by Cl ts (0 to 4),	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
D. CV/CC Signal D. Enable/Disable D. Enable/Disable D. Remote/Local Selection D. Remote/Local Selection D. Remote/Local Signal D. Senote/Local Signal D. Senote	Selects R Signals op  Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advancec Voltage: 4 Current: 4 VOLTAGE Green LE Red LED:  ± 0.5% of ± 0.5% of 0.02% of 0.04% of ± (0.1% of	manual a manual a manual a manual a manual a manual a selection I FF, Output BS-485, La selectior I Parallel digits, Addigits,	Local op mode; Op adjust by adjust by by Voltage at On/Off, AN, IEEE a (RS-232 Master/S ccuracy: splays vo VIEW, FC (OVP, OT	eration by en collectory collectory en collectory en collectory end of the collectory en	vivoltage: tor: Local encoders E Adjust e encoder. # Modes (Al and USB e only): 120 Master L f Vo(rated lo(rated) hower sup M/LOCAL AC FAIL, 187.5A; ±	0 ~ 0.6V = Open (I  (COARS) ncoder, F of Addre: uto/Safe), selection 0, 2400, unit, where 1 ± 1 count ply (Local OUT ON) ENA, SO	E and FIN Tont Pane sses = 31 Foldback by rear-pa 4800, 960 2 x = # of t sense) o /OFF, CV/	2 ~ 15V = ge = 30V) E adjustr I Lock/Un Control (inel DIP-so) 0 and 19 Slave uni r at load (inc, FINE	Remote : nent selectock  CV to CC), witch 1,200 (by Cl ts (0 to 4),	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
2. CV/CC Signal 10. Enable/Disable 11. Remote/Local Selection 12. Remote/Local Signal 12. FRONT PANEL 13. SFRONT PANEL 14. Control Functions 15. FRONT PANEL 15. Control Functions 16. DIGITAL PROGRAMMING & READBACK 16. Vout Programming Accuracy 17. Lout Programming Accuracy 18. Vout Programming Resolution 18. Lout Readback Accuracy	Selects R Signals op  Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advancec Voltage: 4 Current: 4 VOLTAGE Green LE Red LED:  ± 0.5% of ± 0.5% of ± 0.5% of ± 0.1% o ± (0.1% o	manual a manual a manual a manual a manual a selection I FF, Output IS-485, La selection I Parallel digits, At	Local op mode; Op adjust by by Voltagut On/Off, AN, IEEE on (RS-232 Master/S couracy: couracy: couracy: of (OVP, OT ) for units	eration by en collectory collectory en collectory en collectory end of the collectory en	vivoltage: tor: Local encoders E Adjust e encoder. # Modes (Al and USB e only): 120 Master L f Vo(rated lo(rated) hower sup M/LOCAL AC FAIL, 187.5A; ±	0 ~ 0.6V = Open (I  (COARS) ncoder, F of Addre: uto/Safe), selection 0, 2400, unit, where 1 ± 1 count ply (Local OUT ON) ENA, SO	E and FIN Tont Pane sses = 31 Foldback by rear-pa 4800, 960 2 x = # of t sense) o /OFF, CV/	2 ~ 15V = ge = 30V) E adjustr I Lock/Un Control (inel DIP-so) 0 and 19 Slave uni r at load (inc, FINE	Remote : nent selectock  CV to CC), witch 1,200 (by Cl ts (0 to 4),	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
2. CV/CC Signal 10. Enable/Disable 11. Remote/Local Selection 12. Remote/Local Signal 12. FRONT PANEL 1. Control Functions  2. Display  3. Indications 1.6 DIGITAL PROGRAMMING & READBACK 1. Vout Programming Accuracy 2. Iout Programming Accuracy 3. Vout Programming Resolution 4. Iout Programming Resolution 5. Vout Readback Accuracy 5. Iout Readback Accuracy 6. Iout Readback Accuracy 7. Vout Readback Resolution	Selects R   Signals or	manual a man	Local op mode; Op adjust by by Voltagut On/Off, AN, IEEE on (RS-232 Master/S couracy: couracy: couracy: of (OVP, OT ) for units	eration by en collectory collectory en collectory en collectory end of the collectory en	vivoltage: tor: Local encoders E Adjust e encoder. # Modes (Al and USB e only): 120 Master L f Vo(rated lo(rated) hower sup M/LOCAL AC FAIL, 187.5A; ±	0 ~ 0.6V = Open (I  (COARS) ncoder, F of Addre: uto/Safe), selection 0, 2400, unit, where 1 ± 1 count ply (Local OUT ON) ENA, SO	E and FIN Tont Pane sses = 31 Foldback by rear-pa 4800, 960 2 x = # of t sense) o /OFF, CV/	2 ~ 15V = ge = 30V) E adjustr I Lock/Un Control (inel DIP-so) 0 and 19 Slave uni r at load (inc, FINE	Remote : nent selectock  CV to CC), witch 1,200 (by Cl ts (0 to 4),	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	
2. CV/CC Signal 10. Enable/Disable 11. Remote/Local Selection 12. Remote/Local Signal 12. FRONT PANEL 13. SFRONT PANEL 14. Control Functions 15. FRONT PANEL 15. Control Functions 16. DIGITAL PROGRAMMING & READBACK 16. Vout Programming Accuracy 17. Lout Programming Accuracy 18. Vout Programming Resolution 18. Lout Readback Accuracy	Selects R Signals op  Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advancec Voltage: 4 Current: 4 VOLTAGE Green LE Red LED:  ± 0.5% of ± 0.5% of ± 0.5% of ± 0.1% o ± (0.1% o	manual a manual a selection I FFF, Outputs-485, La selection I Parallel digits, Acting the meter di D's: PRE ALARM Vo(rated) Io(rated) Vo(catud) Vo(catud) Vo(catud) Vo(catud) Io(rated)	Local op mode; Op mode; Op adjust by adjust by by Voltagut On/Off, AN, IEEE n (RS-232 Master/S ccuracy: esplays vo VIEW, FC (OVP, OT ) for units	eration by en collective separate VOLTAGI e Adjust e Restart I (IEMD) a 2/RS-485 lave: Hx = ± 0.5% o e b 0.5% of ltage at p DLD, REN P, FOLD, with lo <	vivoltage: tor: Local encoders; Endjust e encoder. # Modes (Al and USB; only): 12C; Master L f Vo(rated Io(rated) power sup M/LOCAL AC FAIL, 187.5A; ± ted))	0 ~ 0.6V = Open (I (COARS necoder, F of Addres toto/Safe), selection 10, 2400, unit, where 1) ±1 count ±1 count ply (Local OUT ON ENA, SO 0.7% of I	E and FIN ront Pane ssees = 31 Foldback by rear-pa 4800, 960 9 x = # of t sense) o //OFF, CV/ )	2 ~ 15V = ge = 30V)  E adjustrI Lock/Un  Control (inel DIP-s 0 and 19 Slave uni  r at load (iCC, FINE	Remote ., Remote  ment selectiock  CV to CC), witch	= On (Max table) Go-to-Loc URRENT / Slave = Sl	cal Adjust encc	oder)	



<sup>11.</sup> Ripple and Noise at Vo(rated) and rated Load, Ta = +25C and nominal AC input, per EIJ R9002A

\*2. Time for the Output voltage to recover within 2% of rating for a load current change of 50~100% or 100~50% of lo(rated).

\*3. From 20% - 100% for models with lor < 17A.

\*4. Operating with a load that continuously pulses the current (or voltage) can reduce the operating life of the Power Supply. Please contact TDK-Lambda Sales/Technical Support to discuss the application in detail.

\*5. CV Mode: from 5% to 100% of Irated (over 5% to 100% of Prated); CC Mode: from 20% to 100% of Vrated (over 20% to 100% of Prated).

All specifications subject to change without notice.

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Genesvs <sup>™</sup>	3U	ISKVV	Speci	ricai	uons

1.Rated Output Voltage	GEN	N/A	N/A	N/A	N/A	N/A	30-500	40-375	50-300	60-250			125-120
Detect Outside Outside	VDC						30	40	50	60	80	100	125
P.Rated Output Current	ADC						500	375	300	250	187.5	150	120
B.Rated Output Power	kW						15.0	15.0	15.0	15.0	15.0	15.0	15.0
4.Efficiency (min) at low AC line, 100% Rated Load	%					ntact Ea	otory for a	thor mod	ole	88			
.1 CONSTANT VOLTAGE MODE (CV)					Co	ппаст га	ctory for c	uier mod	eis				
I. Max. Line Reg (0.1% - Vor ≤ 30V; 0.05% - 30V < Vor ≤													
600V; 0.05% - 600V < Vor < 1500V)	mV						30	20	25	30	40	50	62.5
2. Max. Load Reg (0.1% - Vor ≤ 30V; 0.05% - 30V < Vor ≤	mV						30	20	25	30	40	50	62.5
600V; 0.1% - 600V < Vor ≤ 1500V); (*5)		<u> </u>											
3. Output Ripple, rms (5Hz~1MHz), CV mode; (*1)	mV						20	20	20	20	25	25	25
4. Output Noise, p-p (20MHz), CV mode; (*1)  5. Remote Sense Compensation / Wire	mV V						1.5	60 2	75 3	75 3	100	100 5	125 5
6. Temperature Stability											Temperatu		3
7. Temperature Coefficient	ppm / °C			Vo(rated)		00 11111	iato waiii	тар (ооп	Marit Eiric	, Loud a	Tomporato		
B. Up-Prog. Response Time, 0 ~ Vomax, full-load	ms			(	,,, -			100					
9. Up-Prog. Response Time, 0~Vomax, no load	ms							50					
0. Transient Response Time (CV mode); (*2), (*4)	ms						Les	s than 3					
.2 CONSTANT CURRENT MODE (CC)													
. Max. Line Reg. (0.1% - Ior ≥ 333A; 0.050% - Ior < 333A)	mA						500	375	334	125	94	75	60
2. Max. Load Reg (0.1% - Ior ≥ 333A; 0.075% - 25A ≤ Ior <	mA						500	375	334	188	141	113	90
333A; 0.2% - lor < 25A); (*3), (*5)		ļ											
3. Ripple, rms (5Hz~1MHz), CC mode	mA						350	200	150	100	100	100	50
4. Temperature Stability						er 30 min	ute warm	up (cons	tant Line	Load &	Temperatu	re)	
5. Temperature Coefficient	ppm/°C	± 300 (±	U.U3% 0	f lo(rated)	)/°U								
.3 PROTECTIVE FUNCTIONS													
I. OCP	%	0 ~ 100											
2. OCP type		Constan		Monuel -	noot by f	nt naa-1	OUT 5: "	on or D1-	ital care	ounicati-	n	ootob!-	
B. Foldback Protection (FOLD)  F. Foldback Response Time					eset by fro ax = 25 /						n, user-sele	eciable	
5. OVP type	S		<u> </u>								ng or Digita	l communic	cation
6. OVP Programming Accuracy	%		Vo(rated)	i, ividiludi	10001 Dy F	10 01/0	п тесусіе,	JUI DUI	on, nem	OLO AHAIL	yg or Digita	. communic	Janon
	i e			Vo(rated)	- for Vor -	≤ 600V; 1	0% to 10	5% of Vo	rated) - 6	00V < V0	or ≤ 1500V		
7. OVP Trip Point	V	Shall alv	vays be g	reater that	n 105% of	Vo(setti	ng); Defau	lt = 105%					
B. OVP Response Time	ms				begin to d				V				
9. Max. OVP Reset Time	s			switch tu		- ' '							
10. Over-temperature Protection (OTP)		Shut do	wn if inter	nal tempe	rature exc	eeds sa	e operatii	ng levels	(Latched:	Safe / U	nlatched: A	luto)	
11. Phase-Loss Protection		Yes, pov	ver supply	shutdow	n (Latched	d: Safe-S	tart / Unla	atched: A	uto-Resta	rt)			
1.4 REMOTE ANALOG CONTROLS & SIGNALS													
1. Vout Voltage Programming	0~100%,	0 ~ 5V or	0 ~ 10V, ι	ser-selec	table., Acc	curacy &	Linearity:	±1% of \	o(rated)				
2. lout Voltage Programming	0~100%,	0 ~ 5V or	0 ~ 10V, ι	ser-selec	table, Acc	uracy & I	inearity:	± 1% of le	o(rated)				
3. Vout Resistor Programming		0 ~ 5/10kc											
4. lout Resistor Programming		0 ~ 5/10kc											
5. Shut-Off (SO) Control (rear panel)								n = ENA	, Short =	DIS (use	r-selectable	e logic)	
6. Output Current Monitor		0 ~ 10V, A			· //								
7. Output Voltage Monitor		0 ~ 10V, A									-		
Device County OK (DO OK) County				II (500onn			- \						
B. Power Supply OK (PS_OK) Signal			(\/\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	OUROS S.		npedanc		0 . 0 417	Mayair	k ourron	t = 10m A		
9. CV/CC Signal					rent = 10r	nA; CC:	TTL Low						
9. CV/CC Signal 10. Enable/Disable	Dry conta	ct; Open =	OFF, Sh	ort = ON;	rent = 10r Maximum	nA; CC: voltage	TTL Low across E	nable/Dis	able cont				
D. CV/CC Signal  10. Enable/Disable  11. Remote/Local Selection	Dry conta Selects R	ct; Open = emote or l	OFF, Sh Local ope	ort = ON; ration by	rent = 10r Maximum voltage: 0	mA; CC: voltage ~ 0.6V =	across E	nable/Dis - 15V = F	able cont Remote	acts = 6\	/	rent = 10m	A)
D. CV/CC Signal D. Enable/Disable Enable/Local Selection D. Remote/Local Signal	Dry conta Selects R	ct; Open = emote or l	OFF, Sh Local ope	ort = ON; ration by	rent = 10r Maximum voltage: 0	mA; CC: voltage ~ 0.6V =	across E	nable/Dis - 15V = F	able cont Remote	acts = 6\	/	rent = 10m.	A)
D. CV/CC Signal D. Enable/Disable Enable/Local Selection Enable/Local Signal Enable/Local Signal Enable/Local Signal Enable/Local Signal	Dry conta Selects R Signals o	ct; Open = emote or l perating m	OFF, Sh Local ope node; Ope	ort = ON; ration by n collecto	rent = 10r Maximum voltage: 0 r: Local =	mA; CC: voltage ~ 0.6V = Open (N	across Er Local / 2 lax voltag	nable/Dis - 15V = F e = 30V)	able cont Remote Remote	acts = 6V = On (Ma	/	rent = 10m.	A)
O. CV/CC Signal O. Enable/Disable O. Enable/Disable O. Remote/Local Selection O. Remote/Local Signal O. FRONT PANEL	Dry conta Selects R Signals o	ect; Open = emote or l perating m manual a	OFF, Sh Local ope node; Ope	ort = ON; ration by on collecto eparate e	rent = 10r Maximum voltage: 0 r: Local =	mA; CC: voltage ~ 0.6V = Open (N	across Ended to Local / 2 lax voltage and FIN	nable/Dis - 15V = F e = 30V) E adjustn	Remote Remote Remote	acts = 6V = On (Ma	/	rent = 10m	A)
D. CV/CC Signal D. Enable/Disable Enable/Local Selection Enable/Local Signal Enable/Local Signal Enable/Local Signal Enable/Local Signal	Dry conta Selects R Signals o Vout/ lout OVP/UVL	emote or lemote	OFF, Sh Local openode; Openode	ort = ON; ration by n collecto eparate e OLTAGE	rent = 10r Maximum voltage: 0 r: Local = ncoders (0 Adjust end	mA; CC: voltage ~ 0.6V = Open (N	TTL Low across Er Local / 2 lax voltage and FIN ont Panel	nable/Dis - 15V = F e = 30V) E adjustn Lock/Unl	Remote Remote Remote	acts = 6V = On (Ma	/	rent = 10m.	A)
D. CV/CC Signal D. Enable/Disable Enable/Local Selection Enable/Local Signal Enable/Local Signal Enable/Local Signal Enable/Local Signal	Dry conta Selects R Signals o Vout/ lout OVP/UVL Address s	ect; Open = emote or l perating m manual a	OFF, Sh Local ope node; Ope djust by s djust by V	ort = ON; ration by n collecto eparate e OLTAGE	rent = 10r Maximum voltage: 0 r: Local = ncoders (0 Adjust enceencoder.	mA; CC: voltage ~ 0.6V = Open (N	across Er Local / 2 fax voltag and FIN ont Panel esses = 3	nable/Dis - 15V = F e = 30V). E adjustn Lock/Unl	able cont Remote Remote nent selection	acts = 6\ = On (Ma	/ ax sink cur	rent = 10m.	A)
D. CV/CC Signal D. Enable/Disable Enable/Local Selection Enable/Local Signal Enable/Local Signal Enable/Local Signal Enable/Local Signal	Dry conta Selects R Signals o Vout/ lout OVP/UVL Address s AC ON/O	manual a manual a selection b	OFF, Sh Local ope node; Ope djust by s djust by v y VOLTAC t On/Off, I	ort = ON; ration by on collector eparate e OLTAGE Restart Mo	maximum woltage: 0 r: Local = ncoders (0 Adjust ence encoder.	mA; CC: voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I	across Ender Local / 2 Loc	nable/Dis - 15V = F e = 30V) E adjustm Lock/Unl	Remote Remote Remote nent selectock CV to CC	acts = 6\ = On (Ma	/ ax sink cur	rent = 10m.	A)
D. CV/CC Signal D. Enable/Disable Enable/Local Selection Enable/Local Signal Enable/Local Signal Enable/Local Signal Enable/Local Signal	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F	manual a manual a selection b	djust by s djust by v VOLTAC t On/Off, I	ort = ON; ration by v n collecto eparate e /OLTAGE &E Adjust Restart Mo (IEMD) ar	rent = 10r Maximum voltage: 0 r: Local = ncoders (0 Adjust enc encoder. 1 odes (Auto dd USB se	mA; CC: n voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr o/Safe), I	across Endergraph End FIN ont Panel esses = 3 Foldback by rear panel	nable/Dis - 15V = F e = 30V).  E adjustn Lock/Unl t1 Control (Conel DIP-st	Remote	= On (Mactable)	/ ax sink cur		A)
D. CV/CC Signal D. Enable/Disable Enable/Local Selection Enable/Local Signal Enable/Local Signal Enable/Local Signal Enable/Local Signal	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/R Baud rate	manual a manual a selection b	djust by s djust by s djust by N y VOLTAC t On/Off, I	ort = ON; ration by v n collecto eparate e OLTAGE GE Adjust Restart Mo (IEMD) ar RS-485 o	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust enc encoder. a odes (Auto d USB se nly): 1200	mA; CC: n voltage ~ 0.6V = Open (N  COARSE coder, Fr # of Addr b/Safe), I election b , 2400, 4	across Ei Local / 2  Local / 2  Max voltag  E and FIN ont Panel esses = 3  Foldback y rear pan 800, 9600	E adjustn Lock/Unl Control (Conel DIP-so and 19,00	Remote	= On (Macctable)  ctable)  , Go-to-L	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal  10. Enable/Disable  11. Remote/Local Selection  12. Remote/Local Signal  1.5 FRONT PANEL  1.Control Functions	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/R Baud rate Advanced	manual a manual a manual a manual a manual a manual a selection b FF, Output as selection	OFF, Sh Local open djust by s djust by V y VOLTAC t On/Off, I NN, IEEE (RS-232/ Master/Sla	ort = ON; ration by vin collectors eparate e OLTAGE : GE Adjust Restart Mo (IEMD) an RS-485 o ave: Hx = I	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust encenceder, 4 odes (Auto dd USB senly): 1200 Master un	mA; CC: n voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I election b , 2400, 4 it, where	across Ei Local / 2  Local / 2  Max voltag  E and FIN ont Panel esses = 3  Foldback y rear pan 800, 9600	E adjustn Lock/Unl Control (Conel DIP-so and 19,00	Remote	= On (Macctable)  ctable)  , Go-to-L	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal  10. Enable/Disable  11. Remote/Local Selection  12. Remote/Local Signal  1.5 FRONT PANEL  1.Control Functions	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/R Baud rate Advanced Voltage: 4	manual a manual a manual a manual a manual a selection b FF, Output S-485, LA e selection d Parallel N	= OFF, Sh Local ope node; Ope djust by s djust by \ y VOLTAC t On/Off, I NN, IEEE (RS-232/ Master/Sla curacy: ±	ort = ON; ration by v in collector eparate e COLTAGE. SE Adjust Restart M (IEMD) ar RS-485 o ave: Hx = 1 0.5% of V	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust end encoder. i odes (Auto d USB se nly): 1200 Master un fo(rated) ±	mA; CC: n voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I election b , 2400, 4 it, where	across Ei Local / 2  Local / 2  Max voltag  E and FIN ont Panel esses = 3  Foldback y rear pan 800, 9600	E adjustn Lock/Unl Control (Conel DIP-so)	Remote	= On (Macctable)  ctable)  , Go-to-L	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal D. Enable/Disable The Remote/Local Selection D. Remote/Local Signal D. FRONT PANEL D. Control Functions  D. Display  D. Display	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/R Baud rate Advancec Voltage: 4 Current: 4 VOLTAGE	ct; Open = lemote or lemot	= OFF, Sh Local ope digust by s digust by s y VOLTAC t On/Off, I NN, IEEE (RS-232/ Master/Sla curacy: ± curacy: ± splays volt	ort = ON; ration by v n collecto eparate e OLTAGE GE Adjust Restart M (IEMD) ar RS-485 o ave: Hx = I 0.5% of V age at po	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust encencede: # codes (Aut. dd USB se nly): 1200 Master un fo(rated) ± fo(rated) ± wer suppl	mA; CC: n voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I election b , 2400, 4 it, where 1 count 1 count y (Local	TTL Low across El Local / 2 lax voltage and FIN ont Panel esses = 3 Foldback y rear pai 800, 9600 x = # of \$ sense) or	nable/Dis - 15V = F e = 30V) E adjustm Lock/Unl Control (C nel DIP-s 0 and 19, Slave unit	able cont Remote Remote nent selectock CV to CC witch 200 (by C s (0 to 4)	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal D. Enable/Disable D. Remote/Local Selection D. Remote/Local Signal D. FRONT PANEL D. Control Functions  D. Display D. Display	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advancec Voltage: 4 VOLTAGE Green LE	ct; Open = lemote or lemot	= OFF, Sh Local open dijust by s dijust by s dijust by s y VOLTAG t On/Off, I N, IEEE (RS-232/ Master/Sla curacy: ± curacy: ± curacy: ± curacy: ± curacy: ±	ort = ON; ration by vin collector eparate e /OLTAGE & Adjust Restart Mx (IEMD) are RS-485 o ave: Hx = I 0.5% of V age at po.D, REM.	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust enc. encoder. ( duspersible () duspersible	mA; CC: voltage ~ 0.6V = Open (N  COARSE coder, Fr # of Addr o/Safe), I election b , 2400, 4 it, where :1 count t1 count y (Local	across El Local / 2 fax voltag  and FIN ont Panel esses = 3 Foldback / y rear pan 800, 9600 x = # of \$ sense) or /OFF, CV/	nable/Dis - 15V = F e = 30V) E adjustm Lock/Unl Control (C nel DIP-s 0 and 19, Slave unit	able cont Remote Remote nent selectock CV to CC witch 200 (by C s (0 to 4)	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)
. CV/CC Signal  0. Enable/Disable  1. Remote/Local Selection  2. Remote/Local Signal  .5 FRONT PANEL  .Control Functions  .Display	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advancec Voltage: 4 VOLTAGE Green LE	ct; Open = lemote or lemot	= OFF, Sh Local open dijust by s dijust by s dijust by s y VOLTAG t On/Off, I N, IEEE (RS-232/ Master/Sla curacy: ± curacy: ± curacy: ± curacy: ± curacy: ±	ort = ON; ration by vin collector eparate e /OLTAGE & Adjust Restart Mx (IEMD) are RS-485 o ave: Hx = I 0.5% of V age at po.D, REM.	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust enc. encoder. ( duspersible () duspersible	mA; CC: voltage ~ 0.6V = Open (N  COARSE coder, Fr # of Addr o/Safe), I election b , 2400, 4 it, where :1 count t1 count y (Local	across El Local / 2 fax voltag  and FIN ont Panel esses = 3 Foldback / y rear pan 800, 9600 x = # of \$ sense) or /OFF, CV/	nable/Dis - 15V = F e = 30V) E adjustm Lock/Unl Control (C nel DIP-s 0 and 19, Slave unit	able cont Remote Remote nent selectock CV to CC witch 200 (by C s (0 to 4)	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal D. Enable/Disable I. Remote/Local Selection E. Remote/Local Signal L. FRONT PANEL Control Functions  Display  Display  Display  Display  Remote/Local Signal Remote/Local	Dry conta Selects R Signals of OVP/UVL Address s AC ON/O RS-232/F Baud rate Advanced Voltage: 4 Current: 4 VOLTAGE Green LE Red LED:	ct; Open = lemote or lemot	= OFF, Sh Local open dijust by s dijust by s dijust by s y VOLTAG t On/Off, I N, IEEE (RS-232/ Master/Sla curacy: ± curacy: ± curacy: ± curacy: ± curacy: ±	ort = ON; ration by vin collector eparate e /OLTAGE & Adjust Restart Mx (IEMD) are RS-485 o ave: Hx = I 0.5% of V age at po.D, REM.	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust enc. encoder. ( duspersible () duspersible	mA; CC: voltage ~ 0.6V = Open (N  COARSE coder, Fr # of Addr o/Safe), I election b , 2400, 4 it, where :1 count t1 count y (Local	across El Local / 2 fax voltag  and FIN ont Panel esses = 3 Foldback / y rear pan 800, 9600 x = # of \$ sense) or /OFF, CV/	nable/Dis - 15V = F e = 30V) E adjustm Lock/Unl Control (C nel DIP-s 0 and 19, Slave unit	able cont Remote Remote nent selectock CV to CC witch 200 (by C s (0 to 4)	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal  10. Enable/Disable  11. Remote/Local Selection  12. Remote/Local Signal  1.5 FRONT PANEL  1. Control Functions  2. Display  3. Indications  1.6 DIGITAL PROGRAMMING & READBACK  1. Vout Programming Accuracy	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advancec Voltage: 4 Current: 4 VOLTAGE Green LE Red LED:	ct; Open = temote or liperating m manual a manual a manual a manual a selection b FF, Outpu & S-485, LA selection a Parallel M digits, Ac digits, Ac meter dis D's: PREVALARM (Vorated)	OFF, Sh Local openode; Openode	ort = ON; ration by vin collector eparate e (OLTAGE & Adjust Restart Ma (IEMD) are RS-485 of Vincollector of V	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust enc encoder. 4 dd USB se nly): 1200 Master un fo(rated) ± vor(rated) ±	mA; CC: voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I election b , 2400, 4 it, where -1 count -1 count y (Local OUT ON	TTL Low across Et Local / 2 Max voltage and FIN ont Panel esses = 3 Foldback voltage as 800, 9600 x = # of \$5 Sense) or FF, CV.	nable/Dis - 15V = F e = 30V) E adjustn Lock/Unl id Control (C nel DIP-s 0 and 19, Slave unit at load (I	able contact and a second able contact and a second and a	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal D. Enable/Disable D. Enable/Disable D. Remote/Local Selection D. Remote/Local Signal D. FRONT PANEL D. Control Functions  D. Display D. D	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advanced Voltage: 4 Current: 4 VOLTAGE Green LE Red LED:	ct; Open = temote or I perating m manual a manual a manual a manual a selection b FF, Outpu IS-485, LA selection digits, Act digits, Act digits, Act meter dis D's: PREVALARM (Vo(rated) Io(rated)	OFF, Sh Local openode; Openode	ort = ON; ration by vin collector eparate e (OLTAGE & Adjust Restart Ma (IEMD) are RS-485 of Vincollector of V	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust enc encoder. 4 dd USB se nly): 1200 Master un fo(rated) ± vor(rated) ±	mA; CC: voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I election b , 2400, 4 it, where -1 count -1 count y (Local OUT ON	TTL Low across Et Local / 2 Max voltage and FIN ont Panel esses = 3 Foldback voltage as 800, 9600 x = # of \$5 Sense) or FF, CV.	nable/Dis - 15V = F e = 30V) E adjustn Lock/Unl id Control (C nel DIP-s 0 and 19, Slave unit at load (I	able contact and a second able contact and a second and a	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal D. Enable/Disable D. Enable/Disable D. Enable/Disable D. Remote/Local Selection D. Remote/Local Signal D. FRONT PANEL D. Control Functions  D. Display D. Displ	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advanced Voltage: 4 Current: 4 VOLTAGE Green LE Red LED: ± 0.5% of 0.02% of	ct; Open = temote or lemote or lemot	OFF, Sh Local openode; Openode	ort = ON; ration by vin collector eparate e (OLTAGE & Adjust Restart Ma (IEMD) are RS-485 of Vincollector of V	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust enc encoder. 4 dd USB se nly): 1200 Master un fo(rated) ± vor(rated) ±	mA; CC: voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I election b , 2400, 4 it, where -1 count -1 count y (Local OUT ON	TTL Low across Et Local / 2 Max voltage and FIN ont Panel esses = 3 Foldback voltage as 800, 9600 x = # of \$5 Sense) or FF, CV.	nable/Dis - 15V = F e = 30V) E adjustn Lock/Unl id Control (C nel DIP-s 0 and 19, Slave unit at load (I	able contact and a second able contact and a second and a	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal D. Enable/Disable D. Enable/Disable D. Enable/Disable D. Remote/Local Selection D. Remote/Local Signal D. FRONT PANEL D. Control Functions  D. Display  D. Display  D. Display  D. Lout Programming Accuracy D. Lout Programming Accuracy D. Wout Programming Resolution D. Lout Programming Resolution	Dry conta Selects R Signals of Vout/ lout OVP/UVL Addresss AC ON/O RS-232/F Baud rate Advanced Voltage: 4 VOLTAGE Green LE Red LED: ± 0.5% of 0.02% of 0.04% of	ct; Open = lemote or lemot	OFF, Sh. Local openode; Openod	ort = ON; ration by 'n collector eparate e '/OLTAGE AGE Adjust Restart Mo (IEMD) ar RS-485 o ave: Hx = I O.5% of V O.5% of V age at po LD, REM. P, FOLD, A with Io < 1	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust enn encoder; i odes (Auto d USB see nly): 1200 Master un fo(rated) ± wer suppl /LOCAL, i C FAIL, E	mA; CC: voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I election b , 2400, 4 it, where -1 count -1 count y (Local OUT ON	TTL Low across Et Local / 2 Max voltage and FIN ont Panel esses = 3 Foldback voltage as 800, 9600 x = # of \$5 Sense) or FF, CV.	nable/Dis - 15V = F e = 30V) E adjustn Lock/Unl id Control (C nel DIP-s 0 and 19, Slave unit at load (I	able contact and a second able contact and a second and a	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)
9. CV/CC Signal 10. Enable/Disable 11. Remote/Local Selection 12. Remote/Local Signal 1.5 FRONT PANEL 1. Control Functions  2. Display  3. Indications  1.6 DIGITAL PROGRAMMING & READBACK 1. Vout Programming Accuracy 2. Iout Programming Accuracy 3. Ivout Programming Resolution 4. Iout Programming Resolution 5. Vout Readback Accuracy	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advancec Voltage: 4 VOLTAGE Green LE Red LED: ± 0.5% of ± 0.5% of 0.02% of 0.04% of ± (0.1% of	ct; Open = temote or lemote or lemot	oFF, Sh Local openode; Openode	ort = ON; ration by 'n collector eparate e (OLTAGE Adjust Restart M. (IEMD) ar RS-485 of V. 0.5% of V. age at po_D, REM. P, FOLD, A with lo < 11 of Vo(rate	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust end encoder. i dodes (Autud d USB se nly): 1200 Master un fo(rated) ± fo(rated)	mA; CC: voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I election b , 2400, 4 it, where -1 count -1 count y (Local OUT ON	TTL Low across Et Local / 2 Max voltage and FIN ont Panel esses = 3 Foldback voltage as 800, 9600 x = # of \$5 Sense) or FF, CV.	nable/Dis - 15V = F e = 30V) E adjustn Lock/Unl id Control (C nel DIP-s 0 and 19, Slave unit at load (I	able contact and a second able contact and a second and a	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal  10. Enable/Disable  11. Remote/Local Selection  12. Remote/Local Signal  12. FRONT PANEL  1. Control Functions  2. Display  3. Indications  1. 6 DIGITAL PROGRAMMING & READBACK  1. Vout Programming Accuracy  2. Iout Programming Resolution  4. Iout Programming Resolution  5. Vout Readback Accuracy  6. Iout Readback Accuracy	Dry conta Selects R Signals ol Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advancec Voltage: 4 Current: 4 VOLTAGE Green LE Red LED: ± 0.5% of ± 0.5% of 0.02% of 0.02% of 0.04% of ± (0.1% o ± (0.1% o	ct; Open = temote or I perating m manual a manual a manual a manual a selection b FF, Output (S-485, LA selection at Parallel M digits, Act digits, Act digits, Act meter dis D's: PREVALARM (Vo(rated) I (o(rated) of Vo(rated) of Vo(actual) of Vo(actual) of Vo(actual)	oFF, Sh Local openode; Openode	ort = ON; ration by 'n collector eparate e (OLTAGE Adjust Restart M. (IEMD) ar RS-485 of V. 0.5% of V. age at po_D, REM. P, FOLD, A with lo < 11 of Vo(rate	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust end encoder. i dodes (Autud d USB se nly): 1200 Master un fo(rated) ± fo(rated)	mA; CC: voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I election b , 2400, 4 it, where -1 count -1 count y (Local OUT ON	TTL Low across Et Local / 2 Max voltage and FIN ont Panel esses = 3 Foldback voltage as 800, 9600 x = # of \$5 Sense) or FF, CV.	nable/Dis - 15V = F e = 30V) E adjustn Lock/Unl id Control (C nel DIP-s 0 and 19, Slave unit at load (I	able contact and a second able contact and a second and a	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal 10. Enable/Disable 11. Remote/Local Selection 12. Remote/Local Signal 12. FRONT PANEL 13. Control Functions  D. Display  D. Display  D. Display  D. Display  D. Display  D. Digital Programming & READBACK  D. Vout Programming Accuracy D. Lout Programming Resolution L. Lout Programming Resolution L. Lout Programming Resolution L. Lout Programming Resolution D. Vout Readback Accuracy D. Lout Readback Resolution D. Vout Readback Resolution	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rated Advanced Voltage: 4 Current: 4 VOLTAGE Green LE Red LED: ± 0.5% of ± 0.5% of 0.02% of 0.04% of ± (0.1% o ± (0.1% o 0.02% of	ct; Open = temote or I perating m manual a manual a manual a manual a manual a manual a selection b FF, Outpu IS-485, LA selection b digits, Act digits, Act digits, Act digits, Act meter dis D's: PREV. ALARM (Vo(rated) Io(rated) olo(rated) olo(rated) vo(rated) Vo(rated) Vo(rated) Vo(rated) Vo(rated) Vo(rated) Vo(rated)	oFF, Sh Local openode; Openode	ort = ON; ration by 'n collector eparate e (OLTAGE Adjust Restart M. (IEMD) ar RS-485 of V. 0.5% of V. age at po_D, REM. P, FOLD, A with lo < 11 of Vo(rate	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust end encoder. i dodes (Autud d USB se nly): 1200 Master un fo(rated) ± fo(rated)	mA; CC: voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I election b , 2400, 4 it, where -1 count -1 count y (Local OUT ON	TTL Low across Et Local / 2 Max voltage and FIN ont Panel esses = 3 Foldback voltage as 800, 9600 x = # of \$5 Sense) or FF, CV.	nable/Dis - 15V = F e = 30V) E adjustn Lock/Unl id Control (C nel DIP-s 0 and 19, Slave unit at load (I	able contact and a second able contact and a second and a	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)
D. CV/CC Signal D. Enable/Disable D. Enable/Disable D. Enable/Disable D. Remote/Local Selection D. Remote/Local Signal D. FRONT PANEL D. Control Functions  D. Display  D. Display  D. Display  D. Lout Programming Accuracy D. Lout Programming Accuracy D. Wout Programming Resolution D. Lout Programming Resolution	Dry conta Selects R Signals of Vout/ lout OVP/UVL Address s AC ON/O RS-232/F Baud rate Advance-C Voltage-C Voltage-C ± 0.5% of 0.02% of 0.04% of ± (0.1% o 0.02% of 0.02% of 0.02% of	ct; Open = temote or I perating m manual a manual a manual a manual a manual a manual a selection b FF, Outpu IS-485, LA selection b digits, Act digits, Act digits, Act digits, Act meter dis D's: PREV. ALARM (Vo(rated) Io(rated) olo(rated) olo(rated) vo(rated) Vo(rated) Vo(rated) Vo(rated) Vo(rated) Vo(rated) Vo(rated)	FOFF, Sh. Local openode; Openo	ort = ON; ration by 'n collector' collector eparate e '/OLTAGE' GE Adjust GESTAT MG (IEMD) arr RS-485 o we: Hx = I 0.5% of V 0.5% of V age at po LD, REM. P, FOLD, A collector of Vo(rate of Io(rate of Io(Io(Io(Io(Io(Io(Io(Io(Io(Io(Io(Io(Io(I	rent = 10r Maximum voltage: 0 r: Local = ncoders (( Adjust en. encoder. i odes (Auto d USB se nily): 1200 Waster un fo(rated) ± fo(rated) ± vor suppl /LOCAL, (AC FAIL, E 87.5A; ± 0	mA; CC: n voltage ~ 0.6V = Open (N COARSE coder, Fr # of Addr b/Safe), I lection b, 2400, 4 it, where 1 count 1 count y (Local OUT ON; NA, SO)	TTL Low across El Local / 2 Max voltage and FIN ont Panel esses = 3 Foldback y rear par 800, 9600 x = # of \$ sense) or /OFF, CV/	able/Dis - 15V = F e = 30V). E adjustn Lock/Unl t1 Control (C nel DIP-s 0 and 19, Slave unit at load (I CCC, FINE	able cont Remote Remote nent selectock CV to CC; witch 200 (by Cs (0 to 4)	acts = 6V = On (Mactable) ctable) i, Go-to-L current Ac ; S = Slav	ax sink cur  ocal  djust encoc		A)

<sup>\*1.</sup> Ripple and Noise at Vo(rated) and rated Load, Ta = 25C and nominal AC input, per EIJ R9002A.

\*2. Time for the Output voltage to recover within 2% of rating for a load current change of 50~100% or 100-50% of rated Output.

\*3. From 20% - 100% for models with lor < 25A.

\*4. Operating with a load that continuously pulses the current (or voltage) can reduce the operating life of the Power Supply. Please contact TDK-Lambda Sales/Technical Support to discuss the application in detail.

\*5. CV Mode: from 5% to 100% of Irated (over 5% to 100% of Prated); CC Mode: from 20% to 100% of Vrated (over 20% to 100% of Prated).

All specifications subject to change without notice.

Genesys™ 3U 15kW Specifications

EL	GEN	150-100	200-73	250-60	300-50	400-37.5	500-30	600-25	800-18.8	1000-15	1250-12	1500-10	
output Voltage	VDC	150	200	250	300	400	500	600	800	1000	1250	1500	
Output Current	ADC	100	75	60	50	37.5	30	25	18.8	15	12	10	
Output Power	kW	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.04	15.0	15.0	15.0	
cy (min) at low AC line, 100% Rated Load	%				88					93	3.5		
STANT VOLTAGE MODE (CV)					Con	act Factor	y for othe	r models					
ne Reg (0.1% - Vor ≤ 30V; 0.05% - 30V < Vor ≤ 5% - 600V < Vor ≤ 1500V)	mV	75	100	125	150	200	250	300	400	500	625	750	
oad Reg (0.1% - Vor ≤ 30V; 0.05% - 30V < Vor ≤ % - 600V < Vor ≤ 1500V); (*5)	mV	75	100	125	150	200	250	300	800	1000	1250	1500	
Ripple, rms (5Hz~1MHz), CV mode; (*1)	mV	25	35	35	60	60	60	60	80	100	120	140	
Noise, p-p (20MHz), CV mode; (*1)	mV	150	175	200	200	300	350	350	700	800	1000	1400	H
Sense Compensation / Wire	V	5	5	5	5	5		5	5	5	5	5	-
rature Stability ature Coefficient	ppm / °C	± 0.05%				atter 30 m	inute war	m up, con	stant Line	, Load & Te	mperature		H
g. Response Time, 0~Vomax, full-load	ms ms	200 (0.0	02 /8 OI VC	(lateu)) /	100		-			17	,		Н
g. Response Time, 0~Vomax, no load	ms				50					17			$\vdash$
ent Response Time (CV mode); (*2), (*4)	ms				ess than	3				Less th			
STANT CURRENT MODE (CC)	·												
ne Reg (0.1% - lor ≥ 333A; 0.050% - lor < 333A)	mA	50	38	30	25	19	15	13	28	23	18	15	г
oad Reg (0.1% - lor ≥ 333A; 0.075% - 25A ≤ lor <	i									-			
% - lor < 25A); (*3), (*5)	mA	75	57	45	38	28	23	19	38	30	24	20	
Ripple, rms (5Hz~1MHz), CC mode	mA	50	20	20	20	10	10	10	15	10	6	4	
rature Stability		± 0.05%	of lo(rat	ed) over	8 hours a	fter 30 mir	nute warn	up (cons	tant Line,	Load & Ten	nperature)		
ature Coefficient	ppm / °C	± 300 (±	± 0.03% c	of lo(rated	d)) / °C								
ECTIVE FUNCTIONS													
	%	0 ~ 100											Г
pe		Constan	nt current										Г
ck Protection		Output s	shut dow	n; Manua	I reset by	front pane	el OUT bu	tton or DI	gital comn	nunication,	user-select	able	Г
ck Response Time	s	Less tha	an 1 (Min	= 0.25 /	Max = 25	/ Default :	= 0.25); S	ettable via	"FBD" co	mmand			İ
pe		Inverter	shut-dow	n; Manu	al reset by	On/Off re	ecycle, Ol	JT button,	Remote A	Analog or D	igital comm	unication	
rogramming Accuracy	%	± 5% of	Vo(rated	)									
p Point	V								rated) - 60 of Vo(rate	00V < Vor <u>&lt;</u> ed)	1500V		
sponse time	ms					drop) for drop) for			)V				
VP reset time	s	7 (from A	AC On/O	ff switch t	turn On)								П
emperature Protection		Shut dov	wn if inte	rnal temp	erature e	xceeds sa	fe operat	ng levels	(Latched:	Safe / Unla	tched: Auto	)	
Loss Protection		Yes, pov	wer suppl	y shutdo	wn (Latch	ed: Safe-S	Start / Un	atched: A	uto-Restar	t)			
TE ANALOG CONTROLS & SIGNALS													
Itage Programming	0~100%, 0	0 ~ 5V or	0 ~ 10V,	user-sele	ctable, A	curacy &	Linearity:	± 1% of \	o(rated)				
tage Programming	0 ~ 100%,	, 0~5V or	0 ~ 10V,	user-sele	ctable. Ad	curacy &	Linearity	± 1% of Io	(rated)				
sistor programming	0~100%, 0												
sistor Programming	0~100%, 0												
ff (SO) Control (rear panel)								en = ENA	, Short-DI	S (user-sele	ectable logi	c)	
Current Monitor	0 ~ 5V or												L
Voltage Monitor	0 ~ 5V or 0												L
Supply OK (PS_OK) Signal Signal	Yes. TTL H		,					(0 0 4)/	Mov sinl	k current =	10m A		H
e/Disable	Dry contact										IUIIIA		Н
e/Disable e/Local Selection	Selects Re									. J v			Н
te/Local Signal										On (Max	sink current	= 10mA)	Н
T PANEL	- · · · · · · · · · ·		, ср			(-		, ,	,			,	_
Functions	Vout/ lout	manual a	diuet hy	congrate	encoders	(COARSI	and FIN	IF adjustn	nent selec	tahla)			$\overline{}$
unonono	OVP/UVL			•		,				table)			
	Address s												F
			,						(CV to CC	), Go-to-Lo	cal		Г
	RS232/RS			,	,	,	,		*	,,			Г
										URRENT A	djust encod	ler)	
										S = Slave u		•	Γ
	Voltage: 4	digits, Ac	curacy:	± 0.5% o	f Vo(rated	) ±1 count	i i						
	Current: 4												
	VOLTAGE			<u> </u>						ense)			
ons	Green LEI							/CC, FINI	=				Г
	Red LED:	.ALAHM (	(OVP, OT	P, FOLD,	AC FAIL,	ENA, SO	)						_
	± 0.5% of	Vo(rated)	1			-							Г
				with Io <	187.5A: +	/-0.7% of I	o(rated) t	or lo >187	7.5A				H
							, 2.30/		-				H
ogramming Resolution	0.04% of I												Т
eadback Accuracy	± (0.1% of		al) + 0.2%	of Vo(ra	ted))								Г
adback Accuracy	± (0.1% of		-										
adback Resolution	0.02% of \												
	0.02% of I	lo(rated)											
adback Resolution		dans	otwoon W	out excee	ding OVE	I imit and	supply i	nhibit turn	ing On)				
AL PROGRAMMING & READBACK ogramming Accuracy ogramming Accuracy ogramming Resolution ogramming Resolution eadback Accuracy adback Accuracy	Voltage: 4 Current: 4 VOLTAGE Green LEI Red LED:.  ± 0.5% of ± 0.5% of 0.02% of \ 0.04% of I ± (0.1% of 0.02% of \ 0.02% of \ 0.02% of \ 0.02% of \	digits, Ac digits, Ac digits, Ac meter dis D's: PREV .ALARM (  Vo(rated) lo(rated) f Vo(crated) f Vo(actual f lo(actual vo(rated) lo(rated)	ccuracy: :ccuracy: :ccuracy: :ccuracy: :dcuracy: :dcurac	± 0.5% of control of the control of	f Vo(rated) lo(rated) power sup M./LOCAL AC FAIL, 187.5A; +	) ±1 count ±1 count ply (Local ,, OUT ON ENA, SO	sense) o	r at load ( l/CC, FINI or lo ≥187	Remote se		unit(s)		

Set OVP/UVL limits, Set Local/Remote, Operating parameters and Status, Get Identity

All specifications subject to change without notice.



<sup>\*1.</sup> Ripple and Noise at Vo(rated) and rated Load, Ta = 25C and nominal AC input, per EIJ R9002A.

\*2. Time for the Output voltage to recover within 2% of rating for a load current change of 50~100% or 100-50% of rated Output.

\*3. From 20% - 100% for models with lor < 25A.

\*4. Operating with a load that continuously pulses the current (or voltage) can reduce the operating life of the Power Supply. Please contact TDK-Lambda Sales/Technical Support to discuss the application in detail.
\*5. CV Mode: from 5% to 100% of Irated (over 5% to 100% of Prated); CC Mode: from 20% to 100% of Vrated (over 20% to 100% of Prated).

## General Specifications, Genesys™ 3U 10kW/15kW

2.1 INPUT CHARACTERISTICS		
1. Input Voltage / Frequency (range)		208VAC (180-253), 400VAC (342-440 for Vout ≥ 30V; 360-440 for Vout < 30V), 480VAC (432-528); 47-63Hz (all)
2. No. of phases		3-Phase (Wye or Delta) 4 wire total (3 phases and 1 Protective Earth (PE) ground)
3. Dropout Voltage	V	180 / (342/360) / 432
4. Input Current (180VAC/342VAC or 360VAC/432VAC)	Arms	10kW - 45/23/20 (Vout ≤ 600V); 40/23/20 (800V ≤ Vout ≤ 1500V) - at full rated Output power
4. Input outlent (100 VAO/042 VAC 01 000 VAC/402 VAC)	Aiiis	15kW - 64/32/27 (Vout ≤ 600V); 55/32/27 (800V ≤ Vout ≤ 1500V) - at full rated Output power
5. Inrush Current	Α	Not to exceed full rated Input current (see 2.1.4 (Input Current))
6. Power Factor, passive (typical)		Vout < 600V: 0.88 (passive), 10kW/15kW (208VAC, 400VAC, 480VAC)
o. I ower I actor, passive (typical)		Vout > 600V: 0.90/0.93 - 10kW/15kW (208VAC), 0.89/0.92 - 10kW/15kW (400VAC), 0.84/0.88 - 10kW/15kW (480VAC)
7. Leakage Current	mA	3.5 maximum (EN60950)
8. Input Protection		Circuit breaker: 208VAC, (Vout ≤ 30V); Line fuse: 208VAC (Vout ≥ 30V) and 400VAC/480VAC (all models)
10. Phase Imbalance	%	≤ 5% on three-phase Input

#### 2.2 POWER SUPPLY CONFIGURATION

1. Parallel Operation; (*6)	Up to four (4) identical units may be connected in Master/Slave Mode with Single-Wire/Two-Wire connection. In "Advanced-Parallel", the current of Master unit multiplied by number of units connected in parallel is available via digital interface and displayed on the front panel display of the Master unit. Remote Analog current monitor of Master unit is scaled to the Output current of the Master unit (only)
2. Series Operation (*6)	Possible (with external diodes); Up to two identical units with total Output voltage not to exceed $\pm$ 600V from Chassis ground (for Vor $\leq$ 600V) or not to exceed $\pm$ 1500V from Chassis ground (for 600V < Vor $\leq$ 1500V)

#### 2.3 ENVIRONMENTAL CONDITIONS

2.5 ENVIRONMENTAL CONDITIONS	
Operating Temperature	0 to +50°C, 100% load
2. Storage Temperature	-20 to +70°C
Operating Humidity	20 to 80% RH (non-condensing)
Storage Humidity	10 to 90% RH (non-condensing)
5. Vibration & Shock	ASTM D4169, Standard Practice for Performance Testing of Shipping Containers and Systems, Shipping Unit: Single Package Assurance Level: Level II; Acceptance Criteria: Criterion 1 - No product damage Criterion 2 - Packaging is intact, Distribution Cycle: 12 - Air (intercity) and motor freight (local), unitized is used.
6. Altitude	Operating: +50°C up to 7500ft. (2500m), +45°C from 7501 to 10,000ft (2501m - 3000m), Non-Operating 40,000ft (12,000m)
7. Audible Noise	70dBA at lo(rated) (measured 1m from front panel) for Vout < 30V; 65dBA at lo(rated) (measured 1m from front panel) for Vout ≥ 30V

#### 24 FMC

2.4 EMC	
1. 208VAC Input (all models)	CE Mark
1. ESD	EN61000-4-2 (IEC 801-2): Air-discharge ± 8kV , Contact-discharge ± 4kV
2. Fast Transients	EN61000-4-4 (IEC 1000-4-3)
Surge Immunity	EN61000-4-5 (IEC 1000-4-5)
Conducted Immunity	EN61000-4-6 (IEC 1000-4-6)
5. Radiated Immunity	EN61000-4-3 (IEC 1000-4-3)
Power Frequency Magnetic Field	EN61000-4-8
7. Conducted Emissions	EN55011A, FCC part 15J-A
8. Radiated Emissions	EN55011A, FCC part 15J-A
2. 400VAC (all models) /480VAC Input (Vout ≥ 30V)	CE Mark
1. ESD	EN61000-4-2 (IEC 801-2): Air-discharge ± 8kV , Contact-discharge ± 4kV
2. Fast Transients	EN61000-4-4 (IEC 1000-4-3)
3. Surge Immunity	EN61000-4-5 (IEC 1000-4-5)
Conducted Immunity	EN61000-4-6 (IEC 1000-4-6)
5. Radiated Immunity	EN61000-4-3 (IEC 1000-4-3)
Power Frequency Magnetic Field	EN61000-4-8
7. Voltage Dips, Short Interruptions and Voltage Variations Immunity Test (400VAC Only)	IEC 61000-4-11
8. Conducted Emissions	EN55011A, FCC part 15J-A
Radiated Emissions	EN55011A, FCC part 15J-A

2.5 SAFETY	
1.Applicable Standards	UL/cUL 60950-1, EN60950-1 recognized, CB Scheme, CE Mark (208VAC, 400VAC and 480VAC) 7.5V ≤ Vout ≤ 400V: Output is Hazardous; LAN/IEEE/USB/Isolated Analog are SELV 400V < Vout ≤ 600V: Output is Hazardous; LAN/IEEE/USB/Isolated Analog are not SELV 600V < Vout ≤ 1500V: Output is Hazardous; LAN/IEEE/USB/Isolated Analog are SELV
2. Withstand Voltage: (208VAC/400VAC/480VAC; for 60 seconds); (*7)	Vout < 80V:         Input - Ground:         2200VDC/2900VDC/2900VDC,         Input-Hazardous         Output:         2200VDC/3100VDC,         Input - SELV:         2200VDC/2900VDC,           80V ≤ Vout ≤ 300V:         Input - Ground:         2200VDC/2900VDC,         Input - Ground:         2900VDC/2900VDC,         Input - Ground: <t< td=""></t<>
3.Insulation Resistance	20Megohms (typical) at 500VDC, Ta = +25°C

#### 2.6 MECHANICAL CONSTRUCTION

2.0 MECHANICAL CONSTRUCTION	
1. Cooling	Fan-driven with airflow from front to rear. Fan-speed control on models with Vout ≥ 30V  "Zero Stackable" top and bottom. Vents on side shall not be blocked. Chassis slides or suitable rear support required. EIA rack mounting
2. Dimensions (W x H x D)	Width: 429mm / 16.9"; Height: 3U - 133mm / 5.22"  Depth: 564mm / 22.2" for Vout ≤ 600V, 581mm / 22.9" for 800V ≤ Vout ≤ 1500V; excluding connectors, encoders, handles, etc.
3. Weight	43kg / 97 lbs (Vout ≤ 600V); 32kg / 70lbs (Vout > 600V)
4. AC Input connector (with Protective Cover)	M6 x 1" (25.4mm) threaded studs (L1, L2, L3 and Chassis GND) and terminal cover.
5.Output Connectors (busbar)	Busbars: Vout ≤ 25V: (two-hole busbars); 30V ≤ Vout ≤ 300V: busbars (one hole busbars)  Threaded-stud terminals: 400V ≤ Vout ≤ 600V: M6 x 0.5" (12.7mm) threaded-stud; 800V ≤ Vout ≤ 1500V: M6 x 1.0" (25.4mm) threaded-stud
6.Control Connectors	Analog Programming: DB25, plastic connector, AMP747461-5, Female on Supply; Male on Mating connector, 747321, 25 pin Sub-D connector.
7. Mounting Method	Standard 19" Rack-Mount, provision for standard chassis slides. Side/Rear Support is required; Do not mount by front panel only
8. Output Ground Connection	M5 x 0.91" (23mm) threaded-stud

#### 2.7 WARRANTY

1. Warranty	5 years
*6. Please contact TDK-Lambda Sales/Technical Supp	ort to discuss your Parallel or Series application in more detail.

\*7 Please contact TDK-Lambda Sales/Technical Support to discuss your Parallel of Series application in more detail.

All specifications subject to change without notice.



## Genesys<sup>™</sup> Power Parallel and Series Configurations

## Parallel Operation - Master/Slave (\*6)

Active current sharing allows up to four identical units to be connected in an Auto-parallel configuration for the Output power. In Advanced Parallel Master/Slave Mode, total current is programmed and reported by the Master, Up to four 10kW/15kW Power Supplies in parallel act as one 40kW/60kW Power Supply.



## Series Operation (\*6)

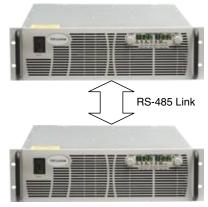
Up to two units may be connected in series to increase the Output voltage or to provide bipolar output. (Max 600V to Chassis GND for Vor < 600V; Max 1500V to Chassis GND for 600V < Vor < 1500V).

## Remote Programming via RS-232 & RS-485 Interface

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







P/N: LAN (for all models)

P/N: IEMD (for all models)

P/N: USB (for all models)

P/N: "----"

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

### Standard RS-232/RS-485 (Multi-Drop) Interface

- Standard Units are equipped with the RS-485 Multi-Drop function
- Allows RS-232 or RS-485 Master unit to control up to 30 (standard) Slave units using RS-485 daisy-chain

### LAN Interface (LXI Compliant w/ Multi-Drop)

- Meets all LXI Class C Requirements
- Address Viewable on Front Panel
- Fixed and Dynamic Addressing
- Fast Startup

- VISA & SCPI Compatible
- LAN Fault Indicators
- Auto-detects LAN Cross-over Cable
- Compatible with most standard Networks

### **IEEE (Multi-Drop) Interface**

- IEEÈ 488.2 & SCPI compliant
- Allows IEEE Master to control up to 30 (standard) Slave units using RS-485 daisy-chain
- Program/Measure Voltage
- Over-Voltage setting and shutdown
- Error and Status Messages

- Program/Measure Current
- Current Foldback shutdown

### USB (Multi-Drop) Interface

- USB 2.0 compliant
- Allows serial connection to computer USB port
- Allows USB Master to control up to 30 (standard) Slaves using RS-485 daisy-chain
- Uses same command set as standard RS-232/RS-485 interface

### **Isolated Analog Programming**

- Option for models with Vout ≤ 600V (IS510 & IS420); IS510 built-in for models where 800V ≤ Vout ≤ 1500V
- Four Channels total (Two channels to Program Voltage and Current; Two channels to Monitor Voltage and Current)
- Isolation allows operation with floating references in harsh electrical environments
- Choose between programming with Voltage or Current
- Connection via removable terminal block: Phoenix MC1,5/8-ST-3.81
- Voltage Programming, User-selectable 0-5V or 0-10V signal

Power supply Voltage and Current Programming Accuracy: ±1.0% Power supply Voltage and Current Monitoring Accuracy: ±1.5%

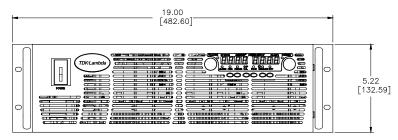
Current Programming with 4-20mA signal

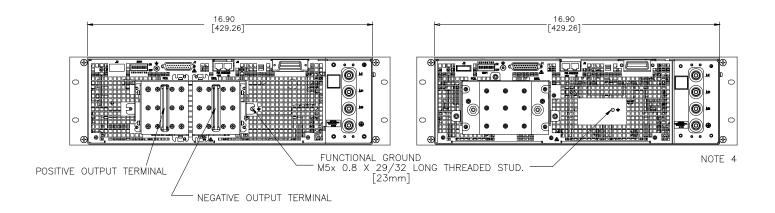
Power supply Voltage and Current Programming Accuracy: ±1.0% Power supply Voltage and Current Monitoring Accuracy: ±1.5%

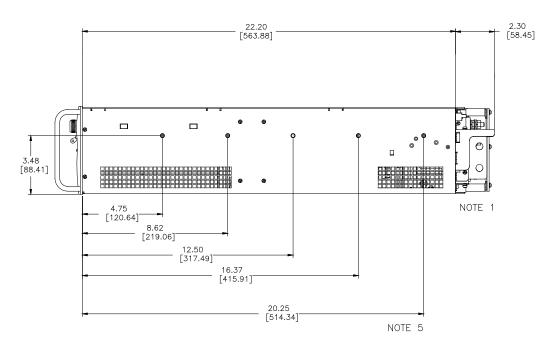
**P/N: IS510 (for Vout ≤ 600V)** 

P/N: IS420 (for all models)

## Outline Drawing: Genesys™ 10kW/15kW (7.5V to 25V - 208VAC/400VAC/480VAC)







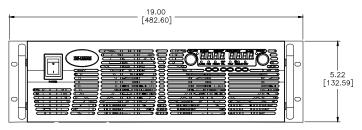
### NOTES:

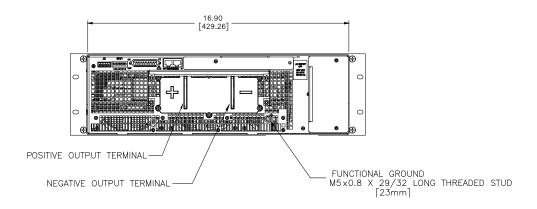
- 1. Busbars for models where Vout < 30V Output: two holes 0.42" (10.72mm) diameter.
- 2. N/A
- 3. N/A
- 4. Input Terminals: M6 x 1" (Qty = 3); Ground Terminal: M5 x 1" (Qty = 2)
- 5. Mounting for Slide Mounts (not included).

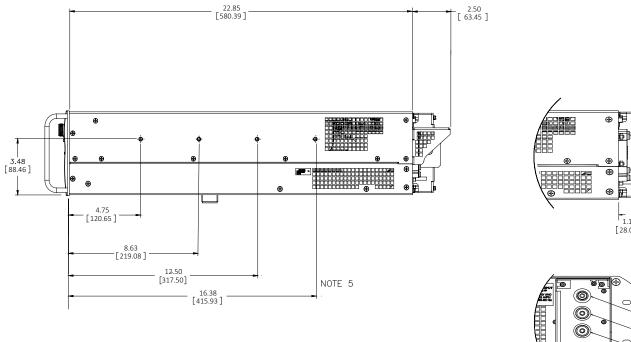
  Recommend: General Devices, Chassis Trak P/N C230-S-122; Verify requirements with slide manufacturer.

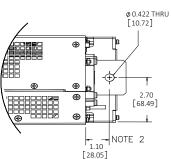
  Secure with pan head screw: M5 x 0.8-8mm long (max).

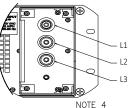
## Outline Drawing: Genesys™ 10kW/15kW (30V to 300V - 208VAC/400VAC/480VAC)







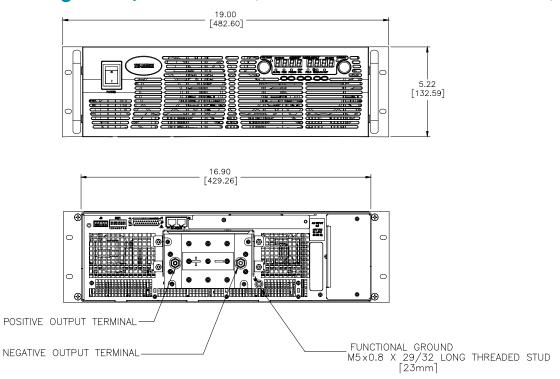


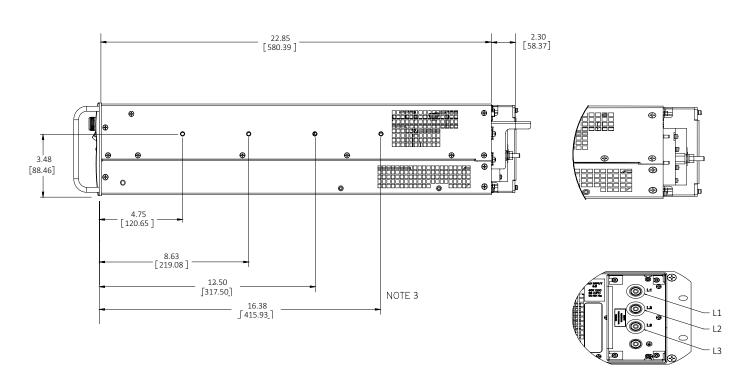


### NOTES:

- 2. Bus bars for models 30-300V Output (10kW/15kW): one hole 0.42" (10.72mm) diameter.
- 4. Input Terminals: M6 x 1" (Qty = 3) + Ground M5 x 1" (Qty = 2)
- 5. Mounting for Slide Mounts (not included). Recommend General Devices, Chassis Trak P/N C230-S-122; Verify requirements with slide manufacturer. Secure with pan head screw: M5 x 0.8-8mm long (max).

## Outline Drawing: Genesys™ 10kW/15kW (400V to 600V - 208VAC/400VAC/480VAC)

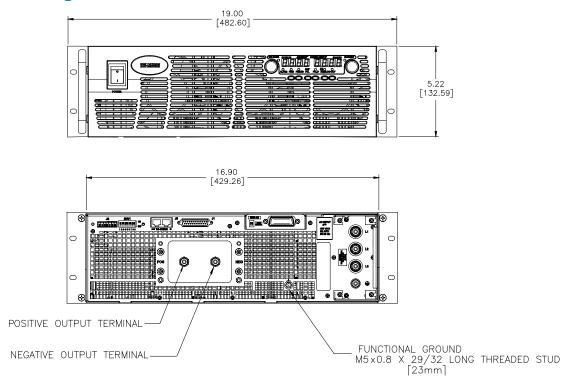


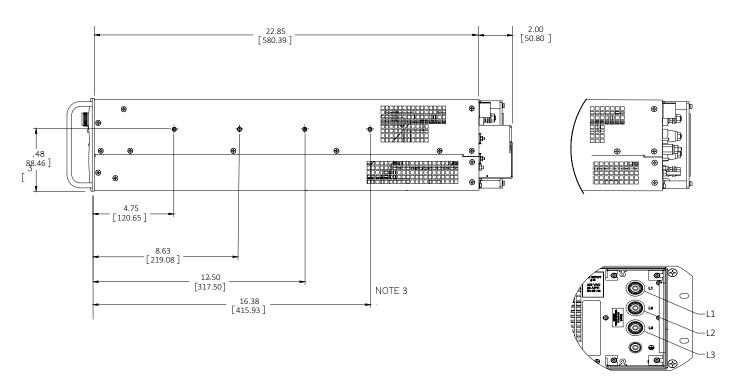


### NOTES:

- 1. N/A
- 2. N/A
- 3. Threaded-stud terminals for models with 300V < Vout  $\leq$  600V (M5 x 1").
- 4. Input Terminals M6 x 1" (Qty = 3) + Ground M5 x 1" (Qty = 2)
- 5. Mounting for Slide Mounts (not included). Recommend General Devices, Chassis Trak P/N C230-S-122; Verify requirements with slide manufacturer. Secure with pan head screw: M5 x 0.8-8mm long (max).

## **Outline Drawing:** Genesys™ 10kW/15kW (800V to 1500V - 208VAC/400VAC/480VAC)





### NOTES:

- 1. N/A
- 2. N/A
- 3. Threaded stud terminals for models with  $800V \le Vout \le 1500V$  Output (M5 x 1").
- 4. Input Terminals M6 x 1" (Qty = 3) + Ground M5 x 1" (Qty = 2)
- Mounting for Slide Mounts (not included).
   Recommend General Devices, Chassis Trak P/N C230-S-122; Verify requirements with slide manufacturer.

Secure with pan head screw M5 x 0.8-8mm long (max).



## Power Supply Identification / Accessories (Genesys™ 3U 10kW/15kW) **How to Order:**

GEN 10 1000 Series Output Output Name Voltage Current (0~10V)(0~1000A)

Factory Options Option: LAN **IEMD** USB IS510 IS420

LAN

3P208

AC Input Options 3P208 (Three-Phase 208VAC) 3P400 (Three-Phase 400VAC) 3P480 (Three-Phase 480VAC)

Model	Output Voltage (Vdc)	Output Current (Adc)	Output Power (kW)	
GEN 7.5-1000	0~7.5	0~1000	7.5	
GEN 10-1000	0~10	0~1000	10	
GEN 12.5-800	0~12.5	0~800	10	
GEN 20-500	0~20	0~500	10	
GEN 25-400	0~25	0~400	10	
GEN 30-333	0~30	0~333	10	
GEN 30-500	0~30	0~500	15	
GEN 40-250	0~40	0~250	10	
GEN 40-375	0~40	0~375	15	
GEN 50-200	0~50	0~200	10	
GEN 50-300	0~50	0~300	15	
GEN 60-167	0~60	0~167	10	
GEN 60-250	0~60	0~250	15	
GEN 80-125	0~80	0~125	10	
GEN 80-187.5	0~80	0~187.5	15	
GEN 100-100	0~100	0~100	10	
GEN 100-150	0~100	0~150	15	
GEN 125-80	0~125	0~80	10	
GEN 125-120	0~125	0~120	15	
GEN 150-66	0~150	0~66	10	
GEN 150-100	0~150	0~100	15	

Model	Output Voltage (Vdc)	Output Current (Adc)	Output Power (kW)	
GEN 200-50	0~200	0~50	10	
GEN 200-75	0~200	0~75	15	
GEN 250-40	0~250	0~40	10	
GEN 250-60	0~250	0~60	15	
GEN 300-33	0. 200	0~33	10	
GEN 300-50	0~300	0~50	15	
GEN 400-25	0~400	0~25	10	
GEN 400-37.5	0~400	0~37.5	15	
GEN 500-20	0~500	0~20	10	
GEN 500-30	0~500	0~30	15	
GEN 600-17	0~600	0~17	10	
GEN 600-25	0~600	0~25	15	
*GEN 800-12.5	0~800	0~12.5	10	
*GEN 800-18.8	0~600	0~18.8	15	
*GEN 1000-10	0~1000	0~10	10	
*GEN 1000-15	0~1000	0~15	15	
*GEN 1250-8	0~1250	0~8	10	
*GEN 1250-12	0~1250	0~12	15	
*GEN 1500-6.7	0~1500	0~6.7	10	
*GEN 1500-10	U~ 1500	0~10	15	

## **Factory options**

RS-232/RS-485 Multi-Drop Interface (built-in standard) LAN Interface ( LX Class C compliant w/ Multi-Drop) GPIB (488.2 w/ Multi-Drop) Interface USB (2.0 w/ Multi-Drop) Interface Isolated Analog Interface (Voltage Program/Monitor) Isolated Analog Interface (Current Program/Monitor)

### P/N

LAN **IEMD USB** 

**IS510** \*(built-in standard on 800-1500V models) **IS420** 

### **Accessories**

### 1. Serial Communication cable (optional)

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

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

### 2. Serial Link cable (optional)

Daisy-chain up to 31 Genesys™ power supplies.

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

## Genesys™ Family - Output Voltage / Output Current

Model	GENH		GEN-1U		GEI	N-2U	GI	EN 3U
Rated Power	750W	750W	1.5kW	2.4kW	3.3kW	5.0kW	10kW	15kW
Voltage Range	Output Current Range							
0~6V	0~100A	0~100A	0~200A					
0~7.5V							0~1000A	
0~8V	0~90A	0~90A	0~180A	0~300A	0~400A	0~600A		
0~10V				0~240A	0~330A	0~500A	0~1000A	
0~12.5V	0~60A	0~60A	0~120A				0~800A	
0~15V					0~220A			
0~16V				0~150A		0~310A		
0~20V	0~38A	0~38A	0~76A	0~120A	0~165A	0~250A	0~500A	
0~25V							0~400A	
0~30V (15kW) - NEW !	0~25A	0~25A	0~50A	0~80A	0~110A	0~170A	0~333A	0~500A
0~40V (15kW) - NEW !	0~19A	0~19A	0~38A	0~60A	0~85A	0~125A	0~250A	0~375A
0~50V (15kW) - NEW !			0~30A				0~200A	0~300A
0~60V	0~12.5	0~12.5A	0~25A	0~40A	0~55A	0~85A	0~167A	0~250A
0~80V	0~9.5A	0~9.5A	0~19A	0~30A	0~42A	0~65A	0~125A	0~187.5A
0~100V	0~7.5A	0~7.5A	0~15A	0~24A	0~33A	0~50A	0~100A	0~150A
0~125V							0~80A	0~120A
0~150V	0~5A	0~5A	0~10A	0~16A	0~22A	0~34A	0~66A	0~100A
0~200V - NEW !					0~16.5A	0~25A	0~50A	0~75A
0~250V							0~40A	0~60A
0~300V	0~2.5A	0~2.5A	0~5A	0~8A	0~11A	0~17A	0~33A	0~50A
0~400V (5.0kW) - NEW !						0~12.5A	0~25A	0~37.5A
0~500V (5.0kW) - NEW !						0~10A	0~20A	0~30A
0~600V	0~1.3A	0~1.3A	0~2.6A	0~4A	0~5.5A	0~8.5A	0~17A	0~25A
0~800V - NEW !							0~12.5A <sup>(5)</sup>	0~18.8A (5)
0~1000V - NEW !							0~10A <sup>(5)</sup>	0~15A <sup>(5)</sup>
0~1250V - NEW !							0~8A <sup>(5)</sup>	0~12A (5)
0~1500V - NEW !							0~6.7A <sup>(5)</sup>	0~10A (5)
Weight (kg/lb)	4.5 / 9.9	7.0 / 15.0	8.5 / 18.0	10 .0 / 22.0	13.0 / 29.0	16.0 / 35.0	43.0 / 97.0	43.0 / 97.0 32.0 / 70.0 <sup>(6)</sup>

(6) 800V - 1500V models only (10kW/15kW)

## **AC Inputs**

85-265Vac, 1Ø	• (1)	• (1)	• (1)					
230Vac, 1Ø				• (1	• (1)			
208Vac, 3Ø				• (1	• (1)	• (1)	• (3)	• (3)
400Vac, 3Ø					• (1)	• (1)	• (3)	• (3)
480Vac, 3Ø					• <sup>(2)</sup> - NEW !	• <sup>(2)</sup> - <b>NEW</b> !	• (3), (4)	• (3), (4)

(1) UL Listed; CE Mark (RoHS2); (2) UL Listed (RoHS2); (3) UL Recognized, CE Mark (RoHS2) - (Vout  $\geq$  25V); 4) UL Recognized, RoHS2 (Vout < 25V)

## Options (All Models)

""	Standard RS-232/RS-485 Master with RS-485 Multi-Drop capability installed
LAN	LXI Compliant LAN Interface (Class C) with RS-485 Multi-Drop capability installed
IEMD	IEEE Master (IEEE 488.2 & SCPI compliant) with RS-485 Multi-Drop capability installed
USB	USB (2.0) Master with RS-485 Multi-Drop capability installed
IS510	Isolated Analog Program/Monitor (0-5V or 0-10V, user-selectable) for 6V-600V models; *(5)
IS420	Isolated Analog Program/Monitor (4-20mA)

All "Options" are factory installed and limited to one "option" per power supply \*(5) Isolated 5V/10V (IS510) Interface is bulit-in standard for 800V-1500V models All specifications are subject to change without notice

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