Identical User Interfaces

Vout from 7.5V to 1500V (10kW and 15kW)

Vout from 7.5V to 1500V (10kW and 15kW)

Program

AC Inputs include 3-Phase 208VAC, 400VAC

Program

Genesys

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 ( L) 1.5 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.lambda.tdk.com

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

1.5 compliant LAN 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 ≤ 600V, standard for models with Vout ≥ 800V

4-20mA: option for all models

- LabView<sup>™</sup> and LabWindows<sup>™</sup> Instrument Software Drivers
- Worldwide Safety Agency Approvals: UL/cUL/EN 61010-1 (20V ≤ Vout ≤ 1500V); UL/cUL/EN 60950-1 (Vout < 20V)</li>
- Five Year Warranty

# **Applications**

Genesys<sup>™</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.

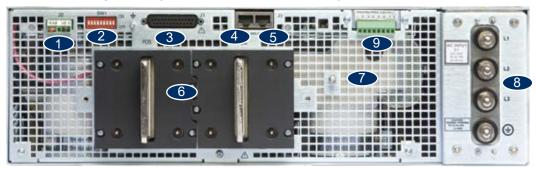
# Front Panel Description (7.5V ≤ Vout < 20V)



- 1. AC ON/OFF Switch (circuit breaker for Vout < 20V; rocker switch for Vout ≥ 20V 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 ≤ Vout < 20V)



- 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.
- 4. RS-485 OUT to other Genesys™ Power Supplies.
- 5. RS-232/RS-485 IN Remote Serial Programming.
- 6. Output Connectors: Rugged 2 hole busbars (shown) for models where Vout < 20V, single hole busbars for 20V ≤ 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 1.5), IEEE (488.2 & SCPI compliant), USB (2.0) or Isolated Analog Interface.

nesys <sup>™</sup> 3U 10kW Spec				40 5 000	00.500	05 100	00.000	40.050	F0 000	00.10=	00.10-	100 100	405.00	1
1.0 MODEL  1.Rated Output Voltage	GEN			12.5-800		25-400	30-333	40-250	50-200		80-125	100-100	125-80	+
2.Rated Output Voltage	VDC ADC	7.5 1000	1000	12.5 800	20 500	25 400	30	40 250	50 200	60 167	80 125	100	125 80	+
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	+
Efficiency (min) at low AC line, 100% Rated Load	%	77	10.0	10.0	10.0	10.0	10.0	83	10.0	10.0	10.0	10.0	10.0	+
, , , , , , , , , , , , , , , , , , , ,					C	ontact Fa	ctory for o	other mod	lels					土
.1 CONSTANT VOLTAGE MODE (CV)														_
. Max. Line Reg (0.1% - Vor ≤ 30V; 0.05% - 30V < Vor ≤	mV	7.5	10	12.5	20	25	30	20	25	30	40	50	62.5	1
.00V; 0.05% - 600V < Vor ≤ 1500V) . Max. Load Reg (0.1% for Vor ≤ 30V; 0.05% for 30V < Vor														+
. Max. Load Reg (0.1% for vor ≤ 30V; 0.05% for 30V < vor ≤ 600V; 0.1% for 600V < Vor ≤ 1500V)	mV	7.5	10	12.5	20	25	30	20	25	30	40	50	62.5	1
B. Output Ripple, rms (5Hz~1MHz), CV mode; (*1)	mV	20	20	20	20	20	20	20	20	20	25	25	25	t
. Output Noise, p-p (20MHz), CV mode; (*1)	mV	60	60	60	60	60	60	60	75	75	100	100	125	T
.Remote Sense Compensation / Wire	٧	1	1	1	1	1	1.5	2	3	3	4	5	5	T
. Temperature Stability		± 0.05%	of Vo(ra	ted) over	8 hours a	fter 30 mi	nute warr	n up (cor	stant Lin	e, Load &	Tempera	ture)		Ť
. Temperature Coefficient	ppm / °C	± 200 (±	0.02%	of Vo(rated	d)) / °C									Ť
. Up-Prog. Response Time, 0 ~ Vomax, full-load	ms							100						Ť
. Up-Prog. Response Time, 0~Vomax, no-load	ms							50						Т
0. Transient Response Time (CV mode); (*2), (*3)	ms						Les	s than 3						Т
.2 CONSTANT CURRENT MODE (CC)														
. Max. Line Reg. (0.1% - Ior ≥ 333A; 0.050% - 17A < Ior <														Т
. Max. Line reg. (0.1% - lor ≥ 333A; 0.075% - 17A < lor < 17A)  . Max. Load Reg (0.1% - lor ≥ 333A; 0.075% - 17A ≤ lor <	mA	1000	1000	800	500	400	333	125	100	83.5	62.5	50	40	1
33A; 0.2% - lor < 17A)	mA	1000	1000	800	500	400	333	188	150	125	94	75	60	1
. Output Ripple, rms (5Hz~1MHz), CC mode	mA	5300	4000	2560	1000	640	444	250	160	67	50	40	32	Ť
. Temperature Stability		± 0.05%	of lo(rat	ed) over 8	hours, at	ter 30 mi	nute warr	n up (con	stant Lin	e, Load &	Tempera	ture)		Ť
. Temperature Coefficient	ppm/°C	± 300 (± 0.03% of lo(rated)) / °C												
.3 PROTECTIVE FUNCTIONS														_
. OCP	%	0 ~ 100												Т
OCP type														
. Foldback Protection (FOLD)					reset by fi	ont pane	OUT but	ton or Di	nital com	municatio	n user-se	lectable		$^{+}$
- Foldback Response Time	s				Max = 25 /							- COLUDIO		†
5. OVP type			$\overline{}$									tal commui	ncation	+
6. OVP Programming Accuracy	%		Vo(rated		ar reset by	710 011/0	ni recycle	, 001 00	ttori, rtor	note / trial	og or Digi	tai oominan	iloution	$^{+}$
· · · · · · · · · · · · · · · · · · ·	V			/	or Vor ≤ 6	00V; 10%	to 105%	of Vo(rat	ed) for 6	00V < Voi	r ≤ 1500V			$^{\dagger}$
7. OVP Trip Point	V				an 105% d				% of Vo(	rated)				↓
3. 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												
9. Max. OVP Reset Time	s			ff switch t										Ť
Over-Temperature Protection (OTP)		7 (from AC On/Off switch turn On) Shut down if internal temperature exceeds safe operating levels (Latched: Safe / Unlatched: Auto)												
Phase-Loss Protection		Yes, po	wer supp	ly shutdov	wn (Latche	ed: Safe-	Start / Unl	latched: A	Auto-Res	tart)				Ι
.4 REMOTE ANALOG CONTROLS & SIGNALS														
. Vout Voltage Programming	0~100%.	0 ~ 5V or	0 ~ 10V.	user-sele	ctable A	ccuracy 8	Linearity	/: ±1% of	Vo(rated	)				Т
. lout Voltage Programming		0 ~ 5V or												†
. Vout Resistor Programming		0 ~ 5/10k												†
. lout Resistor Programming		0 ~ 5/10k												†
. Shut-Off (SO) Control (rear panel)											user-seled	table logic)	)	†
6. Output Current Monitor		0 ~ 10V,												†
. Output Voltage Monitor	0 ~ 5V or	0 ~ 10V,	Accuracy	: ± 1% of	Vo(rated)	user-sel	ectable							†
B. Power Supply OK (PS_OK) Signal		High = O												Ť
. CV/CC Signal		High (4 ~ :						(0 ~ 0.4)	/), Max s	ink currer	t = 10mA			†
0. Enable/Disable		act; Open												$\dagger$
Remote/Local Selection		Remote or												$\dagger$
2. Remote/Local Signal					<u> </u>					e = On (M	ax sink cu	rrent = 10m	nA)	†
.5 FRONT PANEL						- ` `		,						_
.Control Functions	Vout/ lou	t manual a	diugt by	congrate	oncodoro	(COADSI	and EIN	IE adiustr	mont cole	otable)				т
.Control Functions		. manual a				•		,		clable)				ŀ
		selection b			•				HOCK					ŀ
		FF, Outpu	-	-					CV to CO	Co to	Local			ŀ
						,			•	رح), ١٥٥-١٥-	LUCAI			ŀ
		RS-485, LA e selection		. ,						CHEBEN	T Adi4 -	neodor)		H
		e selection d Parallel I	•		- /						-	ncouer)		H
Diaplay								Jiave uni	15 (0 10 4	), o = Sia	ve unii(S)			+
.Display		4 digits, A	,		, ,		L							H
		4 digits, A	-		. ,				(D					ŀ
) Indications		E meter d							<u> </u>	sense)				+
3.Indications		D's: PRE' : ALARM						//CC, FIN	E					
	IVER LED	. ALARIVI	(JVF, UI	i , i OLD	, AU FAIL	, LIVA, 30	<i>)</i>							_
.6 DIGITAL PROGRAMMING & READBACK	. 0 = 01													_
. Vout Programming Accuracy		f Vo(rated		24. 7	107.51	0.70/ 1:	-/ " -		7.5.4					4
Levit December 1 A														
	± 0.5% o		for units	with lo <	187.5A; ±	U.7% OT I	o(rated) to	or 10 ≥18	7.5A					+
Nout Programming Accuracy     Vout Programming Resolution     Inout Programming Resolution		Vo(rated)	for units	with Io <	187.5A; ±	U.7% OT I	o(rated) to	or 10 218	7.5A					#

0.02% of Vo(rated)

0.02% of lo(rated)

± (0.1% of Vo(actual) + 0.2% of Vo(rated))

± (0.1% of lo(actual) + 0.4% of lo(rated))

20ms maximum (between Vout exceeding IEEE Limit and supply Inhibit turning On)

application in detail.
All specifications subject to change without notice.

4. lout Programming Resolution

5. Vout Readback Accuracy

6. lout Readback Accuracy

7. Vout Readback Resolution

8. lout Readback Resolution

9. OV Response Time

<sup>10.</sup> Other Functions Set OVP/UVL limits; Set Local/Remote, Operating parameters and Status, Get Identity \*1 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. 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

# 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	Х
1.Rated Output Voltage	VDC	150	200	250	300	400	500	600	800	1000	1250	1500	X
2.Rated Output Current	ADC	66	50	40	33	25	20	17	12.5	10	8.0	6.7	ļ ×
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	X
4.Efficiency (min) at low AC line, 100% Rated Load	%	<u> </u>			83					9:	3.5		X
1.1 CONSTANT VOLTAGE MODE (CV)					Cont	act Factor	y for otne	er models					<u> </u>
1. Max. Line Reg (0.1% - Vor $\leq$ 30V; 0.05% - 30V < Vor $\leq$ 600V; 0.05% - 600V < Vor $\leq$ 1500V)	mV	75	100	125	150	200	250	300	400	500	625	750	×
2. Max. Load Reg (0.1% - Vor $\leq$ 30V; 0.05% - 30V $<$ Vor $\leq$ 600V; 0.1% - 600V $<$ Vor $\leq$ 1500V)	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	X
4. Output Noise, p-p (20MHz), CV mode; (*1)	mV	150	175	200	200	300	350	350	700	800	1000	1400	<u> </u>
5.Remote Sense Compensation / Wire	V	5	5	5	5	5	5	5	5	5	5	5	<u> </u>
6. Temperature Stability 7. Temperature Coefficient	ppm / °C			ited) over Vo(rated)		atter 30 m	nute war	m up (cor	istant Line	, Load & Te	emperature	e)	$\rightarrow$
8. Up-Prog. Response Time, 0~Vomax, full-load	ms ms	1 200 (	0.02 % 01	vo(rateu)	100					17	7		+
9. Up-Prog. Response Time, 0~Vomax, no load	ms				50					17			1
10. Transient Response Time (CV mode); (*2), (*3)	ms			I	ess than	3				Less th			1
1.2 CONSTANT CURRENT MODE (CC)													
1. Max. Line Reg. (0.1% - lor ≥ 333A; 0.050% - 17A < lor < 333A; 0.15% - lor < 17A)	mA	33	25	20	17	13	10	9	19	15	12	10	>
2. Max. Load Reg (0.1% - lor ≥ 333A; 0.075% - 17A ≤ lor < 333A; 0.2% - lor < 17A)	mA	50	38	30	25	19	15	13	25	20	15	14	>
3. Output Ripple, rms (5Hz~1MHz), CC mode	mA	26	20	16	13	10	8	7	15	10	6	4	<del>  x</del>
Temperature Stability										Load & Te			X
5. Temperature Coefficient	ppm / °C			lo(rated))								/	1
1.3 PROTECTIVE FUNCTIONS													
1. OCP	%	0 ~ 100	)										
2. OCP type		_	nt current	:									;
3. Foldback Protection (FOLD)					reset by	front pane	el OUT bu	utton or D	gital com	munication,	user-selec	ctable	7
4. Foldback Response Time	s	<del></del>				/ Default :							
5. OVP type		Inverte	r shut-dov	vn; Manua	al reset by	y AC On/C	Off recycle	e, OUT bu	tton, Rem	ote Analog	or Digital	comm.	)
6. OVP Programming Accuracy	%		f Vo(rated										<u> </u>
7. OVP Trip Point	V	Shall al	lways be	greater th	an 105%	of Vo(sett	ing); Defa	ault = 105		0V < Vor ≤ ated)	1500V		,
8. OVP response time	ms	Less th	an 2.0 (fo	r Output t	to begin t	drop) for drop) for			0V				,
9. Max. OVP reset time	s	<del></del>		off switch t						0 ( /// )			1
10. Over-Temperature Protection (OTP)  11. Phase-Loss Protection						xceeds sa led: Safe-				: Safe / Unl	atched: Au	uto)	)
'		res, po	ower supp	ily Silutuo	WII (Latti	ieu. Saie-	Start / Un	iatorieu. F	Nulo-Nesia	ait)			
1.4 REMOTE ANALOG CONTROLS & SIGNALS	0 4000/	0 51/2	- 0 40\/		A		Linnarit	40/ -5	\/_(==t==l\				т ,
Vout Voltage Programming     Iout Voltage Programming	0~100%, 0 ~ 100%												)
Vout resistor programming						le. Accura				ted)			
4. lout Resistor Programming	0~100%,												1
5. Shut-Off (SO) Control (rear panel)	By Voltag	je: 0.6V =	DIS, 2-1	5V = ENA	(default)	or Dry Co	ntact : O	pen = EN	A, Short =	DIS (user-	selectable	logic)	)
6. Output Current Monitor	0 ~ 5V or												)
7. Output Voltage Monitor	0 ~ 5V or												)
8. Power Supply OK (PS_OK) Signal	Yes. TTL							. (0 0.4)	O Marine:	-1	10 1		1
9. CV/CC Signal 10. Enable/Disable						0mA; CC: um voltage				nk current =	TUMA		)
10. Enable/Disable 11. Remote/Local Selection	<del></del>			_		o ~ 0.6V :				acis = 0V			
12. Remote/Local Signal										= On (Max	sink curre	nt = 10mA)	+
1.5 FRONT PANEL			, op			(1				,			
1.Control Functions	Vout/ lou	manual	adjust by	senarate	encoders	(COARS	E and EIN	JE adjustr	ment selec	rtable)			
						encoder, f		-					$\vdash$
	Address				-								
			-	-					CV to CC	), Go-to-Lo	cal		
	RS-232/F			` ,									
					-,					URRENT A	-	,	
								Slave un	ts (0 to 4)	, Slave = Sl	ave unit(s	)	-
2.Display	Voltage: 4						nt						$\vdash$
		•	,		` ,	±1 count	Leones'	or at least	(Pomete	conec)			H
3.Indications	VOLTAGE meter displays voltage at power supply (Local sense) or at load (Remote sense)  Green LED's: PREVIEW, FOLD, REM/LOCAL, OUT ON/OFF, CV/CC, FINE								<del>                                     </del>				
3.mulcations						_, ENA, S		v/00, i iiv	_				'
1.6 DIGITAL PROGRAMMING & READBACK													
Vout Programming Accuracy	± 0.5% of												)
2. lout Programming Accuracy	± 0.5% of			with lo <	187.5A; ±	: 0.7% of I	o(rated) f	or lo ≥18	7.5A				
3. Vout Programming Resolution	0.02% of												
4. lout Programming Resolution	0.04% of												1
5. Vout Readback Accuracy	± (0.1% c												;
6. lout Readback Accuracy	± (0.1% of			οτ <mark>ιο</mark> (rate	:u))		-	-		-	-		
7 Vout Poadback Posolution	. U.U∠76 OT	voliated	,										
7. Vout Readback Resolution 8. Jour Readback Resolution		lo(rated)											1 '
7. Vout Readback Resolution 8. lout Readback Resolution 9. OV Response Time	0.02% of 20ms ma			out excee	edina IFF	E Limit an	d sunnly	Inhibit tur	ning On)				'

All specifications subject to change without notice.

<sup>10.</sup> Other Functions

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

\*1. 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. 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.

Canacyc	21 I	15k\\\	<b>Specifications</b>
	$\mathbf{J}\mathbf{U}$	IJKVV	

1.0 MODEL	GEN	N/A	N/A	N/A	N/A	N/A	30-500	40-375	50-300	60-250	80-187.5	100-150	125-120	X
1.Rated Output Voltage	VDC						30	40	50	60	80	100	125	Х
2.Rated Output Current	ADC						500	375	300	250	187.5	150	120	X
3.Rated Output Power	kW						15.0	15.0	15.0	15.0	15.0	15.0	15.0	Х
4.Efficiency (min) at low AC line, 100% Rated Load	%								ala	88				X
1.1 CONSTANT VOLTAGE MODE (CV)						ontact Fa	actory for o	otner mod	eis					Х
1. Max. Line Reg (0.1% - Vor ≤ 30V; 0.05% - 30V < Vor ≤	T													Τ.
600V; 0.05% - 600V < Vor ≤ 1500V)	mV						30	20	25	30	40	50	62.5	Х
2. Max. Load Reg (0.1% - Vor ≤ 30V; 0.05% - 30V < Vor ≤	mV						30	20	25	30	40	50	62.5	Х
600V; 0.1% - 600V < Vor ≤ 1500V)														
3. Output Ripple, rms (5Hz~1MHz), CV mode; (*1)	mV						20	20	20	20	25	25	25	X
Output Noise, p-p (20MHz), CV mode; (*1)     Remote Sense Compensation / Wire	mV V						1.5	60 2	75 3	75 3	100 4	100 5	125 5	)   
6. Temperature Stability											k Tempera			<del>                                     </del>
7. Temperature Coefficient	ppm / °C		± 0.02% o			10. 00 11	mate wan	чр (оол	otant Emi	o, Loud c	. rompora			)
8. Up-Prog. Response Time, 0 ~ Vomax, full-load	ms	,			,,,-			100						>
9. Up-Prog. Response Time, 0~Vomax, no load	ms							50						>
10. Transient Response Time (CV mode); (*2), (*3)	ms						Les	s than 3						>
1.2 CONSTANT CURRENT MODE (CC)														
1. Max. Line Reg. (0.1% - Ior ≥ 333A; 0.050% - Ior < 333A)	mA						500	375	334	125	94	75	60	X
2. Max. Load Reg (0.1% - Ior ≥ 333A; 0.075% - 25A ≤ Ior <	mA						500	375	334	188	141	113	90	Х
333A; 0.2% - Ior < 25A)														
3. Ripple, rms (5Hz~1MHz), CC mode	mA						350	200	150	100	100	100	50	X
4. Temperature Stability						ter 30 mi	nute warm	up (cons	tant Line	, Load &	Temperate	ure)		X
5. Temperature Coefficient	ppm/°C	_ ± 300 (	± 0.03% o	i io(rated)	)) / · C									Х
1.3 PROTECTIVE FUNCTIONS	T 2/	1 0 11												_
1. OCP	%	0 ~ 100												\ \ \
2. OCP type		-	nt current	Manual			I OUT but		-:4-1			la atalala		\ \ \
Foldback Protection (FOLD)     Foldback Response Time		<del></del>									n, user-se	lectable		\ \ \
5. OVP type	S						= 0.25); S					al commun	ication	X
6. OVP Programming Accuracy	%		f Vo(rated		i reset by	AC OII/	JII TECYCIE	, OOT bu	llon, Ken	iole Ana	iog or Digi	ai commu	ication	X
· · · · · · · · · · · · · · · · · · ·	<u> </u>				l) - for Vo	r < 600V	: 10% to 1	05% of V	o(rated) -	600V <	Vor ≤ 1500	)V		
7. OVP Trip Point	V						ting); Defa					•		X
8. OVP Response Time	ms						Vor <u>&lt;</u> 600 r 600V < \		nv					>
9. Max. OVP Reset Time	s		AC On/O			чтор) то	10001 - 1	100	J V					Х
10. Over-temperature Protection (OTP)		-				ceeds sa	afe operati	ng levels	(Latched	: Safe / L	Jnlatched:	Auto)		Х
11. Phase-Loss Protection							Start / Un							X
1.4 REMOTE ANALOG CONTROLS & SIGNALS														
Vout Voltage Programming	0~100%,	0 ~ 5V oi	0 ~ 10V,	user-sele	ctable., A	ccuracy	& Linearity	/: ±1% of	Vo(rated)	)				X
2. lout Voltage Programming	0~100%,	0 ~ 5V o	0 ~ 10V,	user-sele	ctable, Ac	ccuracy 8	Linearity	: ± 1% of	lo(rated)					X
Vout Resistor Programming	0~100%,	0 ~ 5/10	ohm full-s	cale, use	r-selectab	le, Accu	racy & Lin	earity: ± 1	% of Vo(	rated)				Х
lout Resistor Programming	0~100%,													X
5. Shut-Off (SO) Control (rear panel)	<del>, , ,</del>				` ,			en = ENA	, Short =	DIS (use	er-selectab	le logic)		Х
6. Output Current Monitor	0 ~ 5V or													X
7. Output Voltage Monitor	0 ~ 5V or													X
8. Power Supply OK (PS_OK) Signal	Yes. TTL							(0 0 1)						X
9. CV/CC Signal	<del>.                                      </del>							`	,.		nt = 10mA			X
10. Enable/Disable 11. Remote/Local Selection	Dry conta									tacts = 6	V			X
12. Remote/Local Selection	Selects R									= On /M	lov sink su	rront = 10m	Λ)	X
	1 Signals 0	peraurig	noue, Ope	en conecu	JI. LUCAI -	- Open (	iviax voita	je – 30V)	, Remote	- OII (IVI	ax Sirik Cu	rrent = 10m	IA)	^
1.5 FRONT PANEL	T					(00400								
1.Control Functions	Vout/ lout			•		•		•		ctable)				X
	OVP/UVL Address s		, ,		,				niock					X
	!		,	,					CV to CC	'\ Co to	Local			X
	AC ON/O				,	,				,), G0-10-	Local			X
	RS-232/R									Current A	divet ence	dor)		$\rightarrow$
	Advanced										djust enco	uer)		X
2.Display	Voltage: 4							olave uill	is (U IU 4)	,, J – JIB	ve uriii(S)			$\frac{1}{x}$
2.Display	Current: 4	•	,		, ,									X
	VOLTAGI	•	,		, ,			r at load	(Remote	sense)				X
3.Indications	Green LE					<u> </u>				,				1
	Red LED:													>
1.6 DIGITAL PROGRAMMING & READBACK														
Vout Programming Accuracy	± 0.5% of	f Vo(rated	1)											>
I lout Programming Accuracy	± 0.5% of			with lo < 1	87.5A: +	0.7% of	lo(rated) for	or lo ≥187	7.5A					)
Vout Programming Resolution	0.02% of				, -		,		-					>
o. vouce rogramming resolution	0.04% of													>
			al) + 0.2%	of Vo(rat	ted))			-						>
Iout Programming Resolution	± (0.1% o	n vo(acio	<u>u.,</u> . u /	or volia										$\overline{}$
Lout Programming Resolution     Vout Readback Accuracy	± (0.1% o													$\perp$ ×
lout Programming Resolution		of lo(actua	al) + 0.4%											X
4. lout Programming Resolution 5. Vout Readback Accuracy 6. lout Readback Accuracy 7. Vout Readback Resolution 8. lout Readback Resolution	± (0.1% o 0.02% of 0.02% of	of lo(actua Vo(rated) lo(rated)	al) + 0.4%	of lo(rate	d))									) )
4. lout Programming Resolution 5. Vout Readback Accuracy 6. lout Readback Accuracy 7. Vout Readback Resolution	± (0.1% o 0.02% of	of lo(actua Vo(rated) lo(rated) ximum (b	al) + 0.4% etween Vo	of lo(rate	d)) ding IEEE									)

<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. 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.

All specifications subject to change without notice.

# Genesys™ 3U 15kW Specifications

1.0 MODEL	GEN	150-100	200-75	250-60	300-50	400-37.5	500-30	600-25	800-18.8	1000-15	1250-12	1500-10	
1.Rated Output Voltage	VDC	150	200	250	300	400	500	600	800	1000	1250	1500	T
2.Rated Output Current	ADC	100	75	60	50	37.5	30	25	18.8	15	12	10	Т
3.Rated 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	
4.Efficiency (min) at low AC line, 100% Rated Load	%				88					9	3.5		
1.1 CONSTANT VOLTAGE MODE (CV)					Cont	act Factor	y for othe	er 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. Max. Load Reg (0.1% - Vor ≤ 30V; 0.05% - 30V < Vor ≤ 600V; 0.1% - 600V < Vor ≤ 1500V)	mV	75	100	125	150	200	250	300	800	1000	1250	1500	Γ
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	$\vdash$
5.Remote Sense Compensation / Wire	V	5	5	5	5	5	5	5	5	5	5	5	╄
6. Temperature Stability						after 30 m	ninute wa	rm up, coi	nstant Line	e, Load & T	emperature	9	╄
7. Temperature Coefficient  8. Up-Prog. Response Time, 0~Vomax, full-load	ppm / °C	200 (0.0	02% of V	o(rated)) /	100					17	7		₩
9. Up-Prog. Response Time, 0~Vomax, no load	ms ms				50		-			17			╁
10. Transient Response Time (CV mode); (*2), (*3)	ms	<del>                                     </del>			ess than	3			-	Less tl			╁
	1									2000 1			_
1.2 CONSTANT CURRENT MODE (CC)	T m4	50	38	30	25	19	15	13	28	23	18	15	_
1. Max. Line Reg (0.1% - Ior ≥ 333A; 0.050% - Ior < 333A) 2. Max. Load Reg (0.1% - Ior ≥ 333A; 0.075% - 25A < Ior <	mA	30				19	10					10	╁
333A; 0.2% - Ior < 25A)  3. Output Ripple, rms (5Hz~1MHz), CC mode	mA	75 50	57 20	45 20	38 20	10	23 10	19	38 15	30 10	24 6	20	L
Output Ripple, rms (SHZ~1MHz), CC mode     Temperature Stability	mA 										mperature)	4	$\vdash$
Temperature Stability     Temperature Coefficient	ppm / °C	<del></del>	6 of lo(rat			iei ou mii	iute warn	up (cons	otatit LITIE,	LUAU & 16	mperature)		$\vdash$
	Гррпп/ С	<u> </u> ± 300 (:	± 0.03% (	or io(ratec	)) / C								_
1.3 PROTECTIVE FUNCTIONS		T											_
1. OCP	%	0 ~ 100											$\vdash$
2. OCP type  3. Foldback Protection			nt current		rocot be	front non	N OUT 1	ittor or D	laital asser	nunico#a-	user-selec	table	⊢
	+	<del></del>									user-selec	table	⊬
4. Foldback Response Time 5. OVP type	S								a "FBD" co		Digital com	nunication	₩
6. OVP type 6. OVP Programming Accuracy	%		f Vo(rated		ai reset b	/ 011/011 11	ecycle, O	O i bullon	, Remote	Allalog of I	Jigital Colli	nunication	╁
· · · · · · · · · · · · · · · · · · ·	İ			<u> </u>	d) for \/	600V	100/ to 1	0E9/ of \/	o(rotod)	600V < Vo	1500\/		╁
7. OVP Trip Point	V	Shall al	lways be	greater th	an 105%	of Vo(set	ting); Defa	ault = 105	% of Vo(ra		<u> </u>		L
8. OVP response time	ms	Less th	an 10 (for an 2.0 (fo	r Output	o begin t				0V				L
9. Max. OVP reset time 10. Over temperature Protection	S	<u> </u>	AC On/O				f	San and Landard Land	/I -4-lI-	0-6-711-1	- 4 - la - a - la - A 4	- \	╄
11. Phase Loss Protection											atched: Aut	0)	₩
•		res, po	wei supp	ny Shuluo	WII (Latti	eu. Saie-	Start / Un	iatorieu. F	Auto-Resta	111)			上
1.4 REMOTE ANALOG CONTROLS & SIGNALS	T												_
1. Vout Voltage Programming									Vo(rated)				⊢
2. lout Voltage Programming	0 ~ 100%								o(rated) of Vo(rat	- d\			⊢
Vout resistor programming     Iout Resistor Programming									of lo(rate				╁
5. Shut-Off (SO) Control (rear panel)											lectable log	ic)	╆
6. Output Current Monitor	0 ~ 5V or							ZCII LIAZ	t, OHOIT DI	10 (000) 00	icotable log	10)	╆
7. Output Voltage Monitor	0 ~ 5V or												T
8. Power Supply OK (PS_OK) Signal		High = O											T
9. CV/CC Signal	CV: TTL	High (4 ~	5V), Max	source c	urrent = 1	0mA; CC	: TTL Low	/ (0 ~ 0.4\	/), Max sir	nk current =	10mA		Г
10. Enable/Disable									contacts =				Г
11. Remote/Local Selection		Remote or											匚
12. Remote/Local Signal	Signals o	perating r	mode; Op	en collec	or: Local	= Open (I	Max volta	ge = 30V)	, Remote	= On (Max	sink curren	t = 10mA)	Ĺ
1.5 FRONT PANEL 1.Control Functions	Vout/ Iou	t manual	adiust by	separate	encoders	(COARS	E and FIN	VE adiustr	ment selec	table)			Т
	1	_ manual a	, ,			•		,					H
		selection l											F
			,						(CV to CC	C), Go-to-L	ocal		
	RS232/R				,				•				
	Baud rate	selection	n (RS-232	2/RS-485	only): 120	00, 2400,	4800, 960	00 and 19	,200 (by C	URRENT A	Adjust enco	der)	
								Slave uni	its (0 to 4);	S = Slave	unit(s)		ſ
2.Display	Voltage: 4	-	-			,				· · · · · ·			Ĺ
	Current: 4	-	-		. ,								L
									(Remote s	sense)			$\vdash$
3.Indications		D's: PRE :.ALARM						V/CC, FIN	NE .				
1.6 DIGITAL PROGRAMMING & READBACK													
1. Vout Programming Accuracy	± 0.5% of	f Vo(rated	i)										Γ
2. lout Programming Accuracy	± 0.5% of	f lo(rated)	for units	with lo <	187.5A; +	/-0.7% of	lo(rated)	for lo ≥18	7.5A				Γ
Vout Programming Resolution	0.02% of		)										匚
	0.04% of	lo(rated)											Į
	+												
5. Vout Readback Accuracy	± (0.1% c												₽
5. Vout Readback Accuracy 6. lout Readback Accuracy	± (0.1% c	of lo(actua	al) + 0.4%										F
5. Vout Readback Accuracy 6. lout Readback Accuracy 7. Vout Readback Resolution	± (0.1% c	of lo(actua Vo(rated)	al) + 0.4%										E
4. lout Programming Resolution 5. Vout Readback Accuracy 6. lout Readback Accuracy 7. Vout Readback Resolution 8. lout Readback Resolution	± (0.1% of 0.02% of 0.02% of	of lo(actua Vo(rated) lo(rated)	al) + 0.4% )	of lo(rate	ed))								
5. Vout Readback Accuracy 6. lout Readback Accuracy 7. Vout Readback Resolution	± (0.1% of 0.02% of 0.02% of 20ms ma	of lo(actua Vo(rated) lo(rated) eximum (b	al) + 0.4% ) etween V	of lo(rate	ed)) eding OVI				ning On)				

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

All specifications subject to change without notice.

Χ

<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. 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

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

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	1 80 / (342/360) / 432					
		10kW - 45/23/20 (Vout < 600V); 40/23/20 (800V < Vout < 1500V) - at full rated Output power					
4. Input Current (180VAC/342VAC or 360VAC/432VAC)	Arms	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) 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; (*4)	current c	rr (4) identical units may be connected in Master/Slave Mode with Single-Wire/Two-Wire connection. In "Advanced-Parallel", the f Master unit multiplied by number of units connected in parallel is available via digital interface and displayed on the front uplay 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 (*4)		(with external diodes); Up to two identical units with total Output voltage not to exceed ± 600V from Chassis ground (for Vor ≤ 600V exceed ± 1500V from Chassis ground (for 600V < Vor ≤ 1500V)					
2.3 ENVIRONMENTAL CONDITIONS							
Operating Temperature	0 to +50°C, 100% load						
2. Storage Temperature	-20 to +7						
Operating Humidity	20 to 80°	% RH (non-condensing)					
4. Storage Humidity	10 to 90°	% RH (non-condensing)					
5. Vibration & Shock	Assuran	4169, Standard Practice for Performance Testing of Shipping Containers and Systems, Shipping Unit: Single Package 2e Level: Level II; Acceptance Criteria: Criterion 1 - No product damage Criterion 2 - Packaging is intact, Distribution Cycle: 12 - city) and motor freight (local), unitized is used.					
6. Altitude	Operatin	g: +50°C up to 6562ft (2000m), Derate lout 2%/100m up to 3000m or 1°C/100m up to 3000m, Non-Operating 40,000ft (12,000m)					
7. Audible Noise	70dBA a	t lo(rated) (measured 1m from front panel) for Vout < 30V; 65dBA at lo(rated) (measured 1m from front panel) for Vout ≥ 30V					
2.4 EMC							
208VAC Input (all models)							
1. ESD	FN61000	0-4-2 (IEC 801-2): Air-discharge ± 8kV , Contact-discharge ± 4kV					
2. Fast Transients		)-4-4 (IEC 1000-4-3); +/-2kV: AC Power, 2kV: DC Output					
3. Surge Immunity		3-4-5 (IEC 1000-4-5); 1kV line-to-line, 2kV line-to-ground					
4. Conducted Immunity		0-4-6 (IEC 1000-4-6): 10Vrms					
5. Radiated Immunity		)-4-3 (IEC 1000-4-3); 10V/m					
Power Frequency Magnetic Field		)-4-8; 30A/m					
7. Conducted Emissions		IA, FCC part 15J-A					
8. Radiated Emissions		IA, FCC part 15J-A					
400VAC (all models) /480VAC Input (Vout ≥ 20V)							
1. ESD		)-4-2 (IEC 801-2): Air-discharge ± 8kV , Contact-discharge ± 4kV					
2. Fast Transients		0-4-4 (IEC 1000-4-3); +/-2kV: AC Power, 2kV: DC Output					
Surge Immunity		0-4-5 (IEC 1000-4-5); 1kV line-to-line, 2kV line-to-ground					
Conducted Immunity		0-4-6 (IEC 1000-4-6); 10Vrms					
5. Radiated Immunity		0-4-3 (IEC 1000-4-3); 10V/m					
Power Frequency Magnetic Field		0-4-8; 30A/m					
. , ,	IEC 6100						

2.5	SAFETY	
2.0	O, 11 E 1 1	

8. Conducted Emissions 9. Radiated Emissions

2.3 SAFETT	
1.Applicable Standards	IEC/EN/UL 61010-1, CSA 22.2 No. 61010-1 (20V ≤ Vout ≤ 1500V); UL/cUL 60950-1, EN60950-1 recognized, CB Scheme (Vout < 20V) 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 ot SELV 600V < Vout ≤ 1500V: Output is Hazardous; LAN/IEEE/USB/Isolated Analog are SELV
2. Withstand Voltage: (208VAC/400VAC/480VAC; for 60 seconds); (*5)	Vout < 80V: Input - Ground: 2200VDC/2900VDC, Input-Hazardous Output: 2200VDC/3100VDC, Input - SELV: 2200VDC/2900VDC;900VDC; Hazardous Output - SELV: 900VDC/900VDC/900VDC, Hazardous Output - Ground: 900VDC/900VDC/900VDC. 80V ≤ Vout ≤ 300V: Input - Ground: 2200VDC/2900VDC, Input-Hazardous Output: 2200VDC/3500VDC/3500VDC, Input - SELV: 2200VDC/2900VDC;900VDC; Hazardous Output - Ground: 900VDC/900VDC, Input - SELV: 2200VDC/2900VDC/2900VDC, Input-Ground: 900VDC/900VDC, Input-SELV: 2200VDC/2900VDC/2900VDC, Input-Ground: 2200VDC/2900VDC, Input-Hazardous Output: 3300VDC/3900VDC, Input-SELV: 2200VDC/2900VDC, Input-Ground: 900VDC/900VDC, Input-SELV: 2200VDC/2900VDC, Input-Ground: 2200VDC/2900VDC/900VDC, Input-Ground: 900VDC/900VDC, Input-SELV: 2200VDC/2900VDC, Input-Ground: 2200VDC/2900VDC, Input-Hazardous Output: 4500VDC/5040VDC, Input-SELV: 2900VDC/2900VDC, Input-Ground: 2200VDC/2900VDC, Input-Ground: 2200VDC/2900VDC, Input-Ground: 2200VDC/2900VDC, Input-Ground: 2200VDC/2500VDC, Input-Ground: 2500VDC/2500VDC, Input-Ground: 2500VDC/2500VDC/2500VDC
3.Insulation Resistance	20Megohms (typical) at 500VDC, Ta = +25°C, RH = 70%

#### 2.6 MECHANICAL CONSTRUCTION

7. Voltage Dips, Short Interruptions and Voltage

Variations Immunity Test (400VAC Only)

2.0 MEGINATIONE CONCINCON	
1. Cooling	Fan-driven with airflow from front to rear. Fan-speed control on models with Vout ≥ 20V
	"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"
2. Dimensions (W X H X D)	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 < 20V: (two-hole busbars); 20V ≤ Vout ≤ 300V: busbars (one hole busbars)
5.Output Connectors (busbar)	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

5 years

\*4. Please contact TDK-Lambda Sales/Technical Support to discuss your Parallel or Series application in more detail.
\*5 Please contact TDK-Lambda Sales/Technical Support to discuss your System-Level Withstand Voltage requirements in more detail.

IEC 61000-4-11

EN55011A, FCC part 15J-A EN55011A, FCC part 15J-A

All specifications subject to change without notice.



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

Parallel Operation - Master/Slave(\*4)

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.



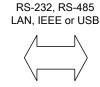
### Series Operation(\*4)

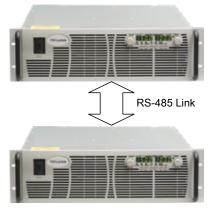
Up to two units may be connected in series to increase the Output voltage or to provide bipolar output. (Max 600V to Chassis GND for  $Vor \le 600V$ ; Max 1500V to Chassis GND for  $600V < Vor \le 1500V$ ).

## 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: "----"

## 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 link

### LAN Interface (LX 1.5 Compliant w/ Multi-Drop)

- Meets all LXI 1.5 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

### P/N: USB (for all models)

P/N: LAN (for all models)

P/N: IEMD (for all models)

#### 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%

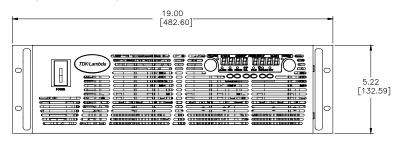
Current Programming with 4-20mA signal

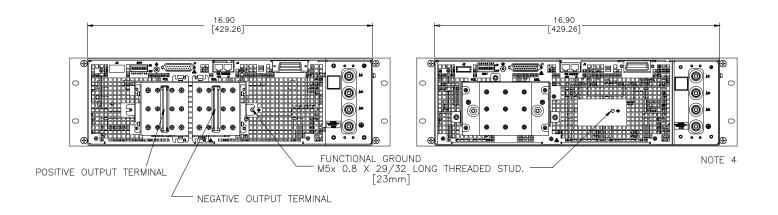
Power supply Voltage and Current Programming Accuracy: ±1.0% Power supply Voltage and Current Monitoring Accuracy: ±1.5%

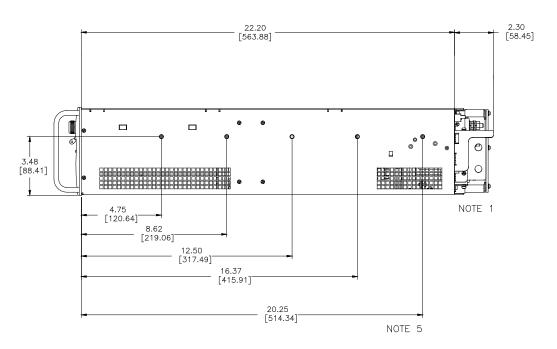
P/N: IS510 (for Vout ≤ 600V)

P/N: IS420 (for all models)

# Outline Drawing: Genesys™ 10kW (7.5V to 12.5V - 208VAC/400VAC/480VAC)



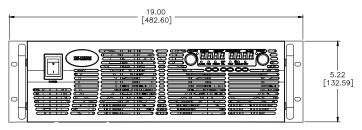


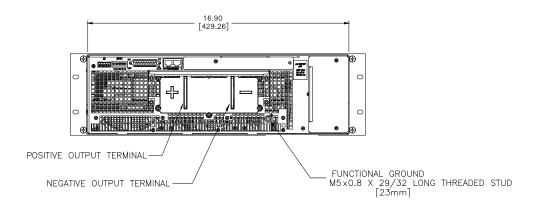


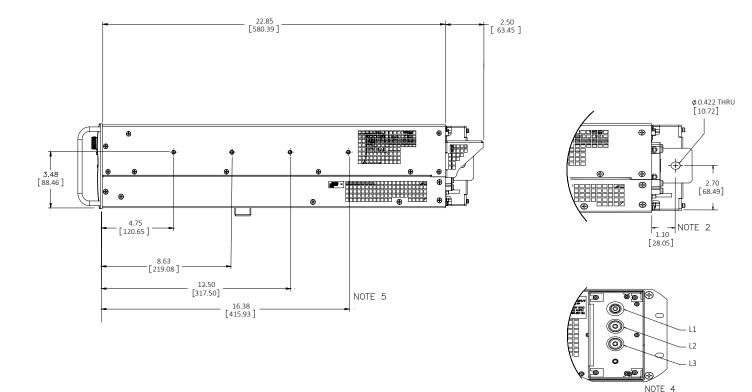
### NOTES:

- 1. Busbars for models where Vout < 20V 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<sup>TM</sup> 10kW/15kW (20V to 300V - 208VAC/400VAC/480VAC)







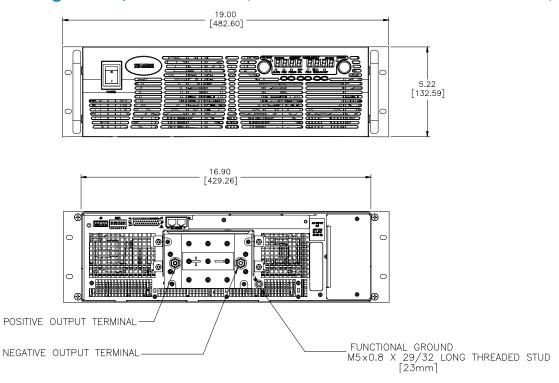
### NOTES:

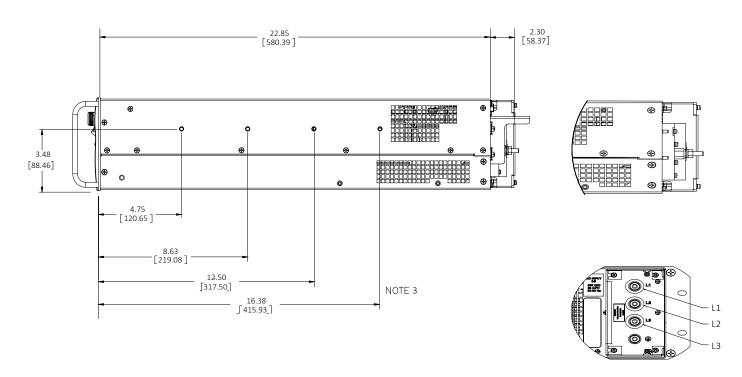
- 1 N/A
- 2. Bus bars for models 20V ≤ Vout ≤ 300V (10kW/15kW): one hole 0.42" (10.72mm) diameter.
- 3. N/A
- 4. Input Terminals: M6 x 1" (Qty = 3) + Ground M5 x 1" (Qty = 2)
- 5. Mounting for Slide Mounts (not included).

  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)





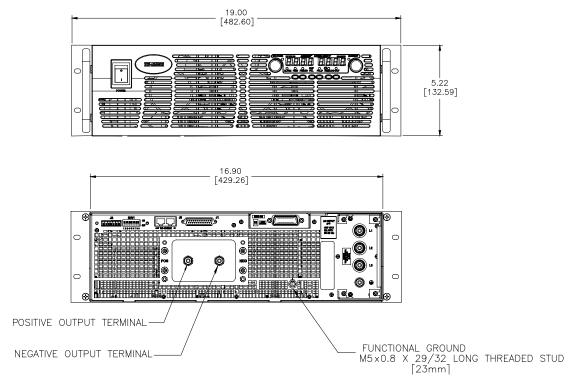
### NOTES:

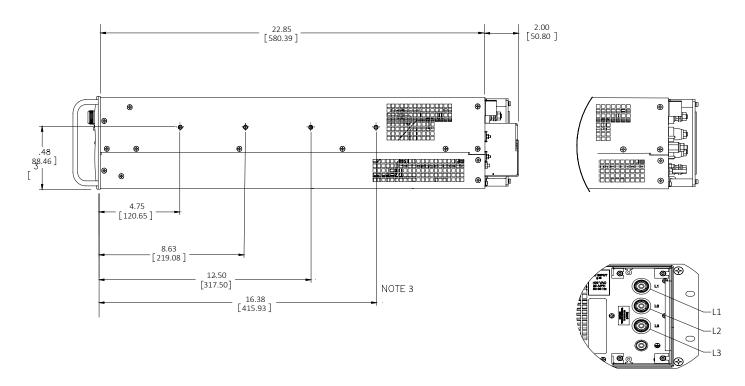
- 1. N/A
- 2. N/A
- 3. Threaded-stud terminals for models with  $400V \le Vout \le 600V$  (M5 x 1").
- 4. Input Terminals M6 x 1" (Qty = 3) + Ground M5 x 1" (Qty = 2)
- 5. Mounting for Slide Mounts (not included).

  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<sup>™</sup> 3U 10kW/15kW) How to Order:

IS510 IS420

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

Output Output Output Model Voltage Current Power (kW) (Vdc) (Adc) 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 0~333 10 0~30 GEN 30-500 0~500 15 GEN 40-250 0~250 10 0~40 GEN 40-375 0~375 15 GEN 50-200 0~200 10 0~50 GEN 50-300 0~300 15 GEN 60-167 0~167 10 0~60 GEN 60-250 0~250 15 GEN 80-125 0~125 10 0~80 GEN 80-187.5 0~187.5 15 GEN 100-100 0~100 10 0~100 GEN 100-150 0~150 15 GEN 125-80 0~80 10 0~125 GEN 125-120 0~120 15 GEN 150-66 0~66 10 0~150 GEN 150-100 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	0~230	0~60	15
GEN 300-33	0~300	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 ( 1.5 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 (Voltage Program/Monitor)
Isolated Analog Interface (Current Program/Monitor)

### P/N

LAN IEMD USB

IS510 \*(built-in standard on 800V-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-25F
Communication Cable	Shield Ground, L=2m	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<sup>™</sup> power supplies.

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

# Genesys™ Family - Output Voltage / Output Current

Model	GENH	GEN-1U			GEN-2U		GEN 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	0~25A	0~25A	0~50A	0~80A	0~110A	0~170A	0~333A	0~500A
0~40V	0~19A	0~19A	0~38A	0~60A	0~85A	0~125A	0~250A	0~375A
0~50V			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					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						0~12.5A	0~25A	0~37.5A
0~500V						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							0~12.5A (5)	0~18.8A (5)
0~1000V							0~10A (5)	0~15A (5)
0~1250V							0~8A (5)	0~12A (5)
0~1500V							0~6.7A (5)	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					• (2)	• (2)	• (3), (4)	• (3), (4)

(1) UL/IEC/EN/CSA22.2 No. 61010-1; CE Mark; (2) UL/IEC/EN/CSA22.2 No. 61010-1, RoHS; (3) UL/IEC/EN/CSA22.2 No. 61010-1, CE Mark - (Vout ≥ 20V); 4) UL/cUL/EN 60950-1 Recognized, RoHS - (Vout < 20V)

## Options (All Models)

""	Standard RS-232/RS-485 Master with RS-485 Multi-Drop capability installed				
LAN	LXI 1.5 Compliant LAN Interface 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 built-in standard for 800V-1500V models All specifications are subject to change without notice



# TDK·Lambda

# **GLOBAL NETWORK**

#### USA

TDK-Lambda Americas Inc. 405 Essex Rd. Neptune, NJ 07753

Tel: +1-732-795-4100 Fax: +1-732-922-9334

E-Mail: sales@us.tdk-lambda.com Web: www.us.tdk-lambda.com/hp

#### CANADA

**ACA TMetrix** 

3835 Laird Road, Mississauga, Ontario, L5L 5Y4 Tel: +1-800-665-7301 Fax: +1-905-890-1959

E-Mail: lambda@aca.ca Web: tmetrix.com

### MEXICO

AcMax de Mexico

39 Poniente 3515 Piso 5 Col. Las Animas

Puebla, Pue. C.P. 72400

Tel: 01-800-211-0060 / (222) 891-8484 Fax: 222-264-1445

E-Mail: info@acmax.mx, Web: www.acmax.mx

#### **BRAZIL**

Supplitec

Rua Sena Madureira 465 31340-000 Belo Hte - MG-Brazil

Tel: +55-31-3498-1177

E-Mail: vendas@suplitec.com.br, Web: www.suplitec.com.br

#### UK

#### **IRELAND**

TDK-Lambda UK Ltd. Kingsley Avenue

Ilfracombe, Devon 34 8ES, United Kingdom Tel: +44-1271-856666 Fax: +44-1271-864894 E-Mail: powersolutions@uk.tdk-lambda.com

Web: www.uk.tdk-lambda.com

### FRANCE

#### NETHERLANDS

**SPAIN** 

TDK-Lambda France SAS

3 Avenue du Canada, Parc Technopolis - Batiment Sigma

91940 Les Ulis - France CS 41077 Tel: +33 1 60 12 71 65 Fax: +33 1 60 12 71 66

E-Mail: france@fr.tdk-lambda.com, Web: www.fr.tdk-lambda.com

#### GERMANY

### AUSTRIA

**SWITZERLAND** 

TDK-Lambda Germany GmbH Karl-Bold-Strasse 40 D-77855 Achern, Germany

Tel: +49-7841-666-0 Fax: +49-7841-500-0 E-Mail: info.germany@de.tdk-lambda.com

Web: www.de.tdk-lambda.com

#### **ITALY**

TDK-Lambda Italy

France Sas Succursale Italiana Via dei Lavoratori 128/130

IT 20092 Cinisello Balsamo, Milano, Italy

Tel: +39-02-6129-3863 Fax: +39-02-6129-0900

E-Mail: info.italia@it.tdk-lambda.com Web: www.it.tdk-lambda.com

#### SCANDINAVIA

**BALTICS** 

TDK-Lambda Germany GmbH Karl-Bold-Strasse 40 D-77855 Achern, Germany

Tel: +49-7841-666-0 Fax: +49-7841-500-0 E-Mail: info.germany@de.tdk-lambda.com

Web: www.de.tdk-lambda.com

#### JAPAN

TDK-Lambda Corporation International Sales Division, 3-9-1, Shibaura, Minato-ku, Tokyo 108-0023, Japan

Tel: +81-3-6852-7125 Fax: +81-3-6852-7140

Web: www.jp.tdk-lambda.com

#### CHINA

Wuxi TDK-Lambda Electronics Co. Ltd, Shanghai Office 5th Floor Kehui Tower, 1188 Qinzhou Road (North) Xuhui District Shanghai, 200233 P.R. CHINA Tel: +86-21-6485-0777 Fax: +86-21-6485-0666

Web: www.cn.tdk-lambda.com

Beijing Branch of Wuxi TDK-Lambda Electronics Co. Ltd. Room 12B11-12B12, Unit 7 Dacheng Square, No. 28

Xuanwumenxi Street, Xuanwu District Beijing, 100053, P.R. CHINA

Tel: +86-10-6310-4872 Fax: +86-10-6310-4874

Web: www.cn.tdk-lambda.com

Shenzen Branch of Wuxi TDK-Lambda Electronics Co. Ltd.

69/F, Ping An Finance Center, 5033 Yitian Road

Futian District, Shenzen, P. R. CHINA

Tel: +86-755-83588261 Fax: +86-755-83588260 Web: www.cn.tdk-lambda.com

### KOREA

TDK-Lambda Corporation Korea Branch (Seocho-Dong, 8F, Songnam Bldg.) 273, Gangnam-Daero, Seochu-Gu. Seoul 137-862, Republic of Korea 137-862 Tel: +82-2-3473-7051 Fax: +82-2-3472-9137 www.tdk-lambda.co.kr

#### MALAYSIA

TDK-Lambda Malaysia Sdn. Bhd. c/o TDK (Malaysia) Sdn Bhd., Lot 709, Nilai Industrial Estate 71800 Nilai Negeri Sembilan, Malaysia

Tel: +60-6-799-1130 Fax: +60-6-799-3277

Web: www.my.tdk-lambda.com

### SINGAPORE

#### **PHILIPPINES**

THAILA ND

TDK-Lambda Singapore Pte. Ltd.

1008 Toa Payoh North # 06-01/08, #07-01/03

Singapore 318996

Tel: +65-6251-7211 Fax: +65-6250-9171

Web: www.sg.tdk-lambda.com

#### INDIA

TDK-Lambda Singapore Pte. Ltd. (India Branch) No.989, 1st Cross, 2nd Floor, 13th Main,

HAL 2nd Stage, Bangalore, Karnataka, India-560 008 Tel: +91-80-43550 500 Fax:+91-80-43550 501

E-Mail: mathew.philip@in.tdk-lambda.com Web: www.in.tdk-lambda.com

#### ISRAEL

RUSSIA

TDK-Lambda Ltd. Israel

Kibbutz Givat Hashlosha Tel-Aviv 48800, Israel Tel: +972-3-9024-333 Fax: +972-3-9024-777

E-Mail: info@tdk-lambda.co.il Web: www.tdk-lambda.co.il

