Genesys™

Programmable DC Power Supplies
10/15kW in 3U
Built in RS-232 & RS-485 Interface
Parallel Current Summing
Optional Interfaces: USB
LXI Compliant LAN
IEEE488.2 SCPI Multi-Drop
Isolated Analog Interface

Genesys™ Family
GEN H 750W Half Rack
GEN 1U 750/1500W Full Rack
GEN 2U 3.3/5kW
GEN 3U 10/15kW

TDK·Lambda

www.us.tdk-lambda.com/hp

The Genesys™ family of programmable power supplies sets a new standard for flexible, reliable, AC/DC power systems in Test & Measurement, Industrial and OEM applications.

Features include:

- **High Power Density 10/15kW in 3U**
- **High Current up to 1,000ADC**
- **Wide Range of popular worldwide 3ϕ AC inputs, (208VAC, 400VAC, 480VAC)**
- **Power Factor 0.88 (Passive Correction on all Inputs)**
- **Output Voltage up to 600V, Current up to 1,000A**
- **Built-in RS-232/RS-485 Interface Standard**
- **Last Setting Memory; Front Panel Lockout**
- **Advanced Parallel reports total current up to four identical units**
- **Global Commands for Serial RS-232/RS-485 Interface**
- Reliable Encoders for Voltage and Current Adjustment
- Independent Remote ON/OFF and Remote ENABLE/DISABLE
- Reliable Modular and SMT Design
- 19" Rack Mounted for ATE and OEM Applications, zero stack
- Optional Interfaces
  - Isolated Analog Programming and Monitoring
  - IEEE Multi-Drop - SCPI
  - LXI Compliant LAN Interface
  - USB Interface
- Labview™ and LabWindows™ drivers
- Five Year Warranty

Worldwide Safety Agency Approvals; UL Recognized and CE Mark for LVD and EMC Regulation (208VAC and 400VAC Input)

Applications

Genesys™ 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. Then up to 30 Slaves may be equipped with the less expensive Optional RS-485 Multi-Drop (MD) 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 RS-485 bus as well as optional LAN (LXI compliant) or USB Interfaces.

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 can be configured by the user to report total current of the combination. Applications include Heaters, Magnets and Laser Diodes.

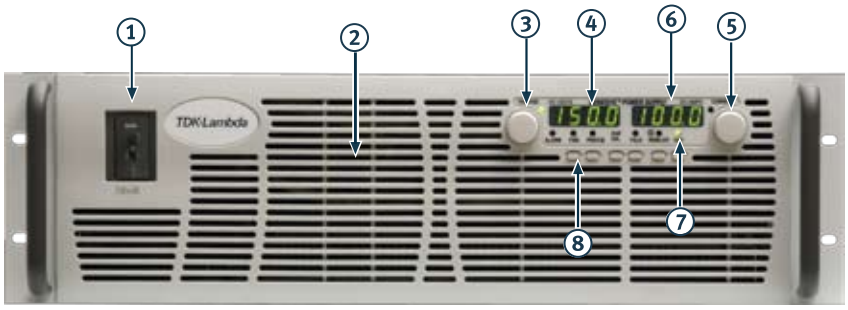
Aerospace & Satellite Testing systems use the complete Genesys™ Family: 1U 750W Half Rack, 1U 750W or 1500W Full-Rack, 2U 3.3kW and 3U 10/15kW. All are identical in Front Panel, Rear Panel Analog and Digital Interface Commands. A wide variety of outputs allows testing of many different devices.

Component Device Testing is simplified because of the many user-friendly control options in 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.

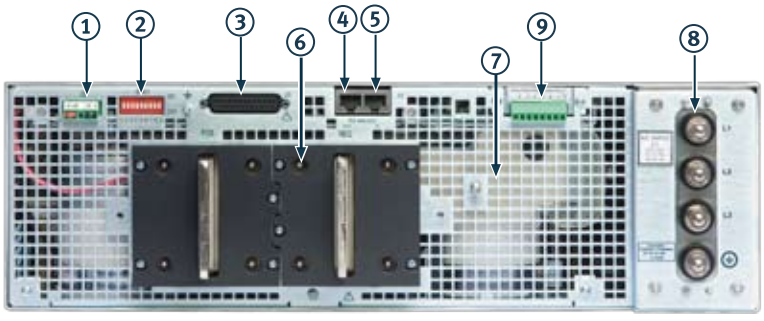
Semiconductor Processing & Burn-in equipment designers appreciate the wide variety of worldwide Inputs and Outputs from which to select depending on application. Selectable Safe and Auto Re-start protects loads and process integrity. Typical applications include Magnets, Filaments and Heaters.

Front Panel Description



1. ON/OFF Switch
2. Air Intake allows zero stacking for maximum system flexibility and power density
3. Reliable encoder controls Output Voltage, Address, OVP and UVL settings
4. Volt Display shows Output Voltage and directly displays OVP, UVL and Address settings
5. Reliable encoder controls Output Current, sets Baudrate, and Advanced Parallel Mode
6. Current Display shows Output Current and displays Baudrate. Displays total current in Parallel Master/Slave Mode
7. Function/Status LEDs:
   - Alarm
   - Fine Control
   - Preview Settings
   - Foldback Mode
   - Remote Mode
   - Output On
8. Pushbuttons allow flexible user configuration
   - Coarse and fine Adjustment of Output Voltage/Current and Advanced Parallel Master or Slave select
   - Preview settings and set Voltage/Current with Output OFF, Front Panel Lock
   - Parallel Master/Slave
   - Set OVP and UVL Limits
   - Set Current Foldback Protection
   - Go to Local Mode and select Address and Baudrate
   - Output ON/OFF and Auto-Re-Start/Safe-Start Mode

Rear Panel Description



1. Remote/Local Output Voltage Sense Connections
2. DIP Switches select 0-5V or 0-10V Programming and other functions
3. DB25 (Female) connector allows (Non-isolated) Analog Program and Monitor and other functions
4. RS-485 OUT to other Genesys™ Power Supplies
5. RS-232/RS-485 IN Remote Serial Programming
6. Output Connections: Rugged 2 hole busbars (shown) for up to 80V Output, single hole busbars 100 to 300V Output, threaded stud terminals above 300V Output
7. Exit air assures reliable operation when zero stacked
8. Input Terminals L1, L2, L3, Ground, threaded studs.
9. Optional Interfaces Position for IEEE 488.2 (GPIB), Isolated Analog Interface, LAN Interface or USB Interface

LAN Interface complies with LXI Class C Specification

Genesys™ 10/15kW Specifications

1.0 MODEL	GEN	7.5-1000	10-1000	12.5-800	20-500	25-400	30-333	40-250	50-200	60-167	10kW	15kW
1.Rated output voltage	V	7.5	10	12.5	20	25	30	40	50	60	X	
2.Rated output current	A	1000	1000	800	500	400	333	250	200	167	X	
3.Rated output power	kW	7.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	X	
4.Efficiency (min) at low line, 100% Rated Load	%	77	83								X	

1.0 MODEL										60-250		15kW
1.Rated output voltage	V	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60		X
2.Rated output current	A									250		X
3.Rated output power	kW									15.0		X
4.Efficiency (min) at low line, 100% Rated Load	%									88		X
	Contact factory for other models											

1.1 CONSTANT VOLTAGE MODE

1. Max. line regulation (0.1% Vo Max =<30V; 0.01%>30V)	mV	7.5	10	12.5	20	25	30	4	5	6	X	X
2. Max. load regulation (0.1% Vo Max =<30V; 0.02%>30V)	mV	7.5	10	12.5	20	25	30	8	10	12	X	X
3. Ripple r.m.s 5Hz~1MHz c.v (*1)	mV	20	20	20	20	20	20	20	20	20	X	X
4. Output noise p-p(20MHz) c.v (*1)	mV	60	60	60	60	60	60	60	75	75	X	X
5. Remote sense compensation/wire	V	1	1	1	1	1	1.5	2	3	3	X	X
6. Temperature Stability c.v.	---	+/-0.05% of Vo Rated Over 8 hours, after 30 minute warm up, constant Line, Load & Temperature									X	X
7. Temperature Coefficient c.v.	PPM/C	200 (0.02% Vo Rated)/Degree C									X	X
8. Up-prog. response time, 0~Vomax full-load	mS	100	100	100	100	100	100	100	100	100	X	X
9. Up-prog. response time, 0~Vomax, no load	mS	50	50	50	50	50	50	50	50	50	X	X
10. Transient response time (cv mode) (*2)	mS	less than 3.									X	X

1.2 CONSTANT CURRENT MODE

1. Max. line regulation (0.1% Io Max =>333A; 0.05%<333A)	mA	1000	1000	800	500	400	333	125	100	83.5	X	
2. Max. load regulation (0.1% Io Max =>333A; 0.075%<333A)	mA	1000	1000	800	500	400	333	188	150	125	X	
1. Max. line regulation (0.1% Io Max =>333A; 0.05%<333A)	mA									125		X
2. Max. load regulation (0.1% Io Max =>333A; 0.075%<333A)	mA									188		X
3. Ripple r.m.s 5Hz~1MHz c.c	mA	5100	5100	2600	2600	1700	1700	100	80	67	X	
3. Ripple r.m.s 5Hz~1MHz c.c	mA									100		X
4. Temperature Stability c.c.	---	+/-0.05% of Io Rated Over 8 hours, after 30 minute warm up, constant Line, Load & Temperature									X	X
5. Temperature Coefficient c.c.	PPM/C	300 (0.03% Full Scale)/ Degree C									X	X

1.3 PROTECTIVE FUNCTIONS

1. OCP	%	0~100	X	X
2. OCP type	---	Constant current	X	X
3. Foldback protection	---	Output shut down, manual reset by front panel OUT button.	X	X
4. Foldback response time	S	Less than 1	X	X
5. OVP type	---	Inverter shut-down, manual reset by On/Off recycle or by OUT button	X	X
6. OVP programming accuracy	%	5% Full Scale	X	X
7. OVP trip point	V	0.05 to (1.02-1.05) x Rated Output Voltage	X	X
8. OVP response time	mS	Less than 10mS for Output to begin to drop.	X	X
9. Max. OVP reset time	S	7 from Turn On.	X	X
10. Over temperature protection	---	Shut down if internal temperature exceeds safe operating levels. (Latched in Safe Mode/ Unlatched in Auto Mode).	X	X
11. Phase Loss Protection	---	Yes	X	X

1.4 REMOTE ANALOG CONTROLS & SIGNALS

1. Vout voltage programming	0~100%, 0~5V or 0~10V, user selectable. Accuracy & Linearity +/-1% of Rated Vo.	X	X
2. Iout voltage programming	0~100%, 0~5V or 0~10V, user selectable. Accuracy & Linearity +/-1% of Rated Io.	X	X
3. Vout resistor programming	0~100%, 0~5/10kohm full scale, user selectable. Accuracy & Linearity +/-1% of Rated Vo.	X	X
4. Iout resistor programming	0~100%, 0~5/10kohm full scale, user selectable. Accuracy & Linearity +/-1% of Rated Io.	X	X
5. On/Off control (rear panel)	By Voltage: 0.6V = Disable, 2-15V = enable (default) or dry contact, user selectable logic	X	X
6. Output current monitor	0~5V or 0~10V , accuracy:1% , user selectable	X	X
7. Output voltage monitor	0~5V or 0~10V , accuracy:1% , user selectable	X	X
8. Power supply OK signal	Yes. TTL high-OK, 0V (500ohm impedance)-Fail	X	X
9. CV/CC signal	CV: TTL high (4~5V) source: 10mA, CC: TTL low (0~04V):10mA	X	X
10. Enable/Disable	Dry contact. Open: Off , Short: On. Max. voltage at Enable/Disable Contacts 6V	X	X
11. Remote/Local selection	Selects Remote or Local operation by Voltage: 0~0.6V/2~15V, <0.6V = Local 2-15V = Remote	X	X
12. Remote/Local signal	Signals operating mode in use.	X	X

1.5 FRONT PANEL

1. Control functions	Vout/ Iout manual adjust by separate encoders, Fine and Coarse selectable.	X	X
	OVP/UVL manual adjust by Voltage Adjust encoder, Front Panel Lock/Unlock	X	X
	Address selection by Voltage Adjust encoder. No of addresses:31	X	X
	AC On/Off, Output On/Off, Restart Modes (Auto/Safe), Foldback Control (CV to CC), Go to Local	X	X
	RS232/485 and IEEE488.2 selection by IEEE enable switch and DIP switch	X	X
	Baudrate selection by Current adjust encoder.	X	X
	Parallel Master Slave:Hx, where x = Slaves 0 up to four.	X	X
2. Display	Vout: 4 Digits, Accuracy: 0.5% +/- 1 Count	X	X
	Iout: 4 Digits, Accuracy: 0.5% +/- 1 Count	X	X
	Voltmeter is user selectable to read either local voltage (at power supply) or remote voltage (at the load).	X	X
3. Indications	ADDR., OVP/UVL , V/A , FOLD, REM./LOCAL, OUT ON/OFF, LFP/UFP, CC/CV : GREEN LED's. ALRM (OVP,OTP,FOLD,AC FAIL): RED LED	X	X

1.6 DIGITAL PROGRAMMING & READBACK

1. Vout programming accuracy	+/-0.5% of rated output voltage	X	X
2. Iout programming accuracy	+/-0.5% of rated output current for units with Io<187.5; +/-0.7% of rated output current for Io ≥187.5	X	X
3. Vout programming resolution	0.02% of full scale	X	X
4. Iout programming resolution	0.04% of full scale	X	X
5. Vout readback accuracy	0.1%+0.2% of rated output voltage	X	X
6. Iout readback accuracy	0.1%+0.4% of rated output current	X	X
7. Vout readback resolution	0.02% of full scale	X	X
8. Iout readback resolution	0.02% of full scale	X	X
9. OV Response time	20 mS maximum between output V exceeding IEEE Limit and supply inhibit turning on.	X	X
10. Other Functions	Set Over-Voltage Limit, Set Local/Remote	X	X

*1. Ripple and Noise at Full Rated Voltage & Load at 25C, Nominal Line. Per EIJ R9002A
*2. Time for the rated output voltage to recover within 2% for a load change of 50~100% or 100~50% of rated output.

Genesys™ 10/15kW Specifications

1.0 MODEL	GEN	80-125	100-100	125-80	150-66	200-50	250-40	300-33	400-25	500-20	600-17	10kW	15kW
1.Rated output voltage	V	80	100	125	150	200	250	300	400	500	600	X	
2.Rated output current	A	125	100	80	66	50	40	33	25	20	17	X	
3.Rated output power	kW	10.0	10.0	10.0	9.9	10.0	10.0	9.9	10.0	10.0	10.2	X	
4.Efficiency (min) at low line, 100% Rated Load	%	83										X	

1.0 MODEL		80-187.5	100-150	125-120	150-100	200-75	250-60	300-50	400-37.5	500-30	600-25	10kW	15kW
1.Rated output voltage	V	80	100	125	150	200	250	300	400	500	600		X
2.Rated output current	A	187.5	150	120	100	75	60	50	37.5	30	25		X
3.Rated output power	kW	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		X
4.Efficiency (min) at low line, 100% Rated Load	%	88											X
		Contact factory for other models											

1.1 CONSTANT VOLTAGE MODE													
1. Max. line regulation (0.1% Vo Max =<30V; 0.01%>30V)	mV	8	10	12.5	15	20	25	30	40	50	60	X	X
2. Max. load regulation (0.1% Vo Max =<30V; 0.02%>30V)	mV	16	20	25	30	40	50	60	80	100	120	X	X
3. Ripple r.m.s 5Hz~1MHz c.v (*1)	mV	25	25	25	25	35	35	60	60	60	60	X	X
4. Output noise p-p(20MHz) c.v (*1)	mV	100	100	125	150	175	200	200	300	350	350	X	X
5. Remote sense compensation/wire	V	4	5	5	5	5	5	5	5	5	5	X	X
6. Temp. drift c.v	---	+/-0.05% of Vo Rated Over 8 hours, after 30 minute warm up, constant Line, Load & Temperature										X	X
7. Stability c.v	PPM/C	200 (0.02% Vo Rated)/Degree C										X	X
8. Up-prog. response time, 0~Vomax full-load	mS	100	100	100	100	100	100	100	100	100	100	X	X
9. Up-prog. response time, 0~Vomax, no load	mS	50	50	50	50	50	50	50	50	50	50	X	X
10. Transient response time (cv mode) (*2)	mS	less than 3.										X	X

1.2 CONSTANT CURRENT MODE													
1. Max. line regulation (0.1% Io Max =>333A; 0.05%<333A)	mA	62.5	50	40	33	25	20	17	13	10	9	X	
2. Max. load regulation (0.1% Io Max =>333A; 0.075%<333A)	mA	94	75	60	50	38	30	25	19	15	13	X	
1. Max. line regulation (0.1% Io Max =>333A; 0.05%<333A)	mA	94	75	60	50	38	30	25	19	15	13		X
2. Max. load regulation (0.1% Io Max =>333A; 0.075%<333A)	mA	141	113	90	75	56	45	38	28	23	19		X
3. Ripple r.m.s 5Hz~1MHz c.c	mA	50	40	32	26	20	16	13	10	8	7	X	
3. Ripple r.m.s 5Hz~1MHz c.c	mA	100	100	50	50	20	20	20	10	10	10		X
4. Temp. drift c.c	---	+/-0.05% of Io Rated Over 8 hours, after 30 minute warm up, constant Line,										X	X
5. Stability c.c	PPM/C	300 (0.03% Full Scale)/ Degree C										X	X

1.3 PROTECTIVE FUNCTIONS				
1. OCP	%	0~100	X	X
2. OCP type	---	Constant current	X	X
3. Foldback protection		Output shut down, manual reset by front panel OUT button.	X	X
4. Foldback response time	S	Less than 1	X	X
5. OVP type	---	Inverter shut-down, manual reset by On/Off recycle or by OUT button	X	X
6. OVP programming accuracy	%	5% Full Scale	X	X
7. OVP trip point	V	0.05 to (1.02-1.05) x Rated Output Voltage	X	X
8. OVP response time	mS	Less than 10mS for Output to begin to drop.	X	X
9. Max. OVP reset time	S	7 from Turn On.	X	X
10. Over temperature protection	---	Shut down if internal temperature exceeds safe operating levels. (Latched in Safe Mode/ Unlatched in Auto	X	X
11. Phase Loss Protection		Yes	X	X

1.4 REMOTE ANALOG CONTROLS & SIGNALS			
1. Vout voltage programming	0~100%, 0~5V or 0~10V, user selectable. Accuracy & Linearity +/-1% of Rated Vo.	X	X
2. Iout voltage programming	0~100%, 0~5V or 0~10V, user selectable. Accuracy & Linearity +/-1% of Rated Io.	X	X
3. Vout resistor programming	0~100%, 0~5/10kohm full scale, user selectable. Accuracy & Linearity +/-1% of Rated Vo.	X	X
4. Iout resistor programming	0~100%, 0~5/10kohm full scale, user selectable. Accuracy & Linearity +/-1% of Rated Io.	X	X
5. On/Off control (rear panel)	By Voltage: 0.6V = Disable, 2-15V = enable (default) or dry contact, user selectable logic	X	X
6. Output current monitor	0~5V or 0~10V , accuracy:1% , user selectable	X	X
7. Output voltage monitor	0~5V or 0~10V , accuracy:1% , user selectable	X	X
8. Power supply OK signal	Yes. TTL high-OK, 0V (500ohm impedance)-Fail	X	X
9. CV/CC signal	CV: TTL high (4~5V) source: 10mA, CC: TTL low (0~04V):10mA	X	X
10. Enable/Disable	Dry contact. Open: Off , Short: On. Max. voltage at Enable/Disable Contacts 6V	X	X
11. Remote/Local selection	Selects Remote or Local operation by Voltage: 0~0.6V/2~15V, <0.6V = Local 2-15V = Remote	X	X
12. Remote/Local signal	Signals operating mode in use.	X	X

1.5 FRONT PANEL			
1. Control functions	Vout/ Iout manual adjust by separate encoders, Fine and Coarse selectable.	X	X
	OVP/UVL manual adjust by Voltage Adjust encoder, Front Panel Lock/Unlock	X	X
	Address selection by Voltage adjust encoder. No of addresses:31	X	X
	AC On/Off, Output On/Off, Restart Modes (Auto/Safe), Foldback Control (CV to CC), Go to Local	X	X
	RS232/485 and IEEE488.2 selection by IEEE enable switch and DIP switch	X	X
	Baud rate selection by Current adjust encoder.	X	X
	Parallel Master Slave:Hx, where x = Slaves 0 up to four.	X	X
2. Display	Vout: 4 Digits, Accuracy: 0.5% +/- 1 Count	X	X
	Iout: 4 Digits, Accuracy: 0.5% +/- 1 Count	X	X
	Voltmeter is user selectable to read either local voltage (at power supply) or remote voltage (at the load).	X	X
3. Indications	ADDR., OVP/UVL , V/A , FOLD, REM./LOCAL, OUT ON/OFF, LFP/UFP, CC/CV : GREEN LED's. ALRM (OVP,OTP,FOLD,AC FAIL): RED LED	X	X

1.6 DIGITAL PROGRAMMING & READBACK			
1. Vout programming accuracy	+/-0.5% of rated output voltage	X	X
2. Iout programming accuracy	+/-0.5% of rated output current for units with Io<187.5; +/-0.7% of rated output current for Io ≥187.5	X	X
3. Vout programming resolution	0.02% of full scale	X	X
4. Iout programming resolution	0.04% of full scale	X	X
5. Vout readback accuracy	0.1%+0.2% of rated output voltage	X	X
6. Iout readback accuracy	0.1%+0.4% of rated output current	X	X
7. Vout readback resolution	0.02% of full scale	X	X
8. Iout readback resolution	0.02% of full scale	X	X
9. OV Response time	20 mS maximum between output V exceeding IEEE Limit and supply inhibit turning on.	X	X
10. Other Functions	Set Over-Voltage Limit, Set Local/Remote	X	X

*1. Ripple and Noise at Full Rated Voltage & Load at 25C, Nominal Line. Per EIJ R9002A
*2. Time for the rated output voltage to recover within 2% for a load change of 50~100% or 100~50% of rated output.

General Specifications Genesys™ 10/15kW

2.1 INPUT CHARACTERISTICS

1. Input voltage/freq.(range)	---	208VAC (180-253); 400VAC (360/440); 480VAC (432-528), all 47-63Hz.
2. No. of phases	---	3 Phase (Wye or Delta) 4 wire total (3 Phase and 1 protective earth ground)
3. Dropout voltage	V	180/360/432
4. Input current 180/360/432Vac	A	10kW - 45/23/20; 15kW - 64/32/27 All at full rated output power.
5. Inrush current	A	Not to exceed full rated Input current See Para. 2.4
6. Power Factor	---	0.88 Passive
7. Leakage current	mA	3.5 (EN60950) max.
8. Input Protection	---	208 VAC Circuit Breaker; 400VAC, 480VAC - Line Fuse
9. Input Overvoltage Protection		Unit shall not be damaged by line overvoltage with max. duration of 100uSec. Up to 120% of nominal AC input voltage.
10. Phase Imbalance	%	= < 5% on Three Phase Input

2.2 POWER SUPPLY CONNECTION

1. Parallel operation		Up to Four (4) identical units may be connected in Master/Slave Mode with 'Single' wire connection. In Advanced parallel feature, the current of Master Unit, multiplied by number of units connected in parallel, is made available on digital interface and displayed on front panel of Master unit. Remote analog current monitor of the Master is scaled to output current of the Master unit (only).
2. Series operation		Possible (with external diodes) , up to identical 2 units with total output not to exceed +/-600V from chassis ground.

2.3 ENVIRONMENTAL CONDITIONS

1. Operating temp	C	0~50 C, 100% load.
2. Storage temp	C	-20C to +70C
3. Operating humidity	%	20~80% RH Non-condensing
4. Storage humidity	%	10~90% RH Non-condensing
5. Vibration & Shock (208/400VAC)	G	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:50º C up to 7500 ft. (2500m), 45º C from 7501 to 10,000ft (2501m - 3000m) Non Operating 40,000 ft (12,000m)
7. Audible Noise	db	65dBA at Full Load, measured 1m from Front Panel

2.4 EMC

1. 208 Volts Input Models		CE Mark
1. ESD	---	EN61000-4-2 (IEC 801-2) Air-disch.+/-8kV , contact disch.+/-4kV
2. Fast transients	---	EN61000-4-4 (IEC 1000-4-3)
3. Surge immunity	---	EN61000-4-5 (IEC 1000-4-5)
4. Conducted immunity	---	EN61000-4-6 (IEC 1000-4-6)
5. Radiated immunity	---	EN61000-4-3 (IEC 1000-4-3)
6. Power Frequency Magnetic Field		EN61000-4-8
7. Conducted emission	---	EN55011A, FCC part 15J-A
8. Radiated emission	---	EN55011A, FCC part 15J-A
2. 400 Volts Input Models		CE Mark
1. ESD	---	EN61000-4-2 (IEC 801-2) Air-disch.+/-8kV , contact disch.+/-4kV
2. Fast transients	---	EN61000-4-4 (IEC 1000-4-3)
3. Surge immunity	---	EN61000-4-5 (IEC 1000-4-5)
4. Conducted immunity	---	EN61000-4-6 (IEC 1000-4-6)
5. Radiated immunity	---	EN61000-4-3 (IEC 1000-4-3)
6. Power Frequency Magnetic Field	---	EN61000-4-8
7. Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests (400VAC Only).	---	IEC 61000-4-11
8. Conducted emission	---	EN55011A, FCC part 15J-A
9. Radiated emission	---	EN55011A, FCC part 15J-A

2.5 SAFETY

1. Applicable standards	---	UL/CUL 60950-1, EN60950-1 recognized. All Outputs are Hazardous. (Units with IEMD or ISOL option are Recognized up to 400 volts output). CE Mark 208 & 400VAC Inputs only (CB Scheme).
2. Insulation resistance	---	100Mohm at 500Vdc

2.6 MECHANICAL CONSTRUCTION

1. Cooling	---	Fan driven, Airflow from Front to Rear. Supplemental vents on side that shall not be blocked. EIA Rack mounting, stackable. "Zero Stackable" top and bottom. Slides or suitable rear support required.
2. Weight	Kg/Lb	43/97
3. Dimensions (W x H x D)	---	W: 19" Rack, H:3U - 5.22"(133mm), D - 22.2" (564mm) without connectors.
4. Types of connectors	---	1) Input: Threaded Studs and terminal cover. Strain relief optional. 2) Output: Up to and including 300V Models: bus-bars. Greater than 300V Models: threaded stud terminals 3) Analog programming: DB25, plastic connector, AMP, 747461-5, Female on Power Supply, Male on Mating connector 747321. Standard 25 pin D connector.
5. Mounting method	---	Standard 19" Rack Mount, provision for standard slides. Side/Rear Support is required; do not mount by F/P only.
6. Output ground connection	----	M5 Stud

2.7 RELIABILITY

1. Warranty	Yrs.	5 years

Genesys™ Power Parallel and Series Configurations

Parallel operation - Master/Slave:

Active current sharing allows up to four identical units to be connected in an auto-parallel configuration for four times the output power.

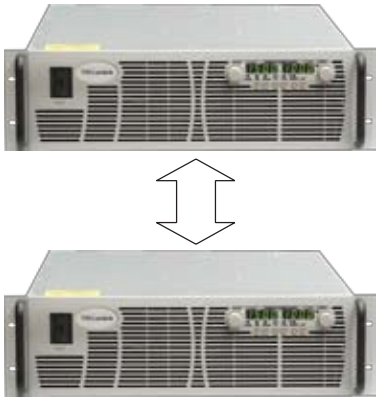
In Advanced Parallel Master/Slave Mode, total current is programmed and reported by the Master. Up to four supplies act as one.

Series operation

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

Remote Programming via RS-232 & RS-485 Interface

Standard Serial Interface allows daisy-chain control of up to 31 power supplies on the same communication bus with built-in RS-232 & RS-485 Interface with or without Multi-Drop option.



Programming Options (Factory installed)

New IEEE Multi-Drop Interface

P/N: IEMD

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

New Multi-Drop Slave Option

P/N: MD

- Slaves need to be equipped with the MD Slave (RS-485) option

Isolated Analog Programming

- Four Channels to Program and Monitor Voltage and Current.
- Isolation allows operation with floating references in harsh electrical environments.
- Choose between programming with Voltage or Current.
- Connection via removable terminal block: Phoenix MC1,5/8-ST-3.81.

P/N: IS510

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

P/N: IS420

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

LAN Interface

LXI Compliant to Class C

P/N: LAN

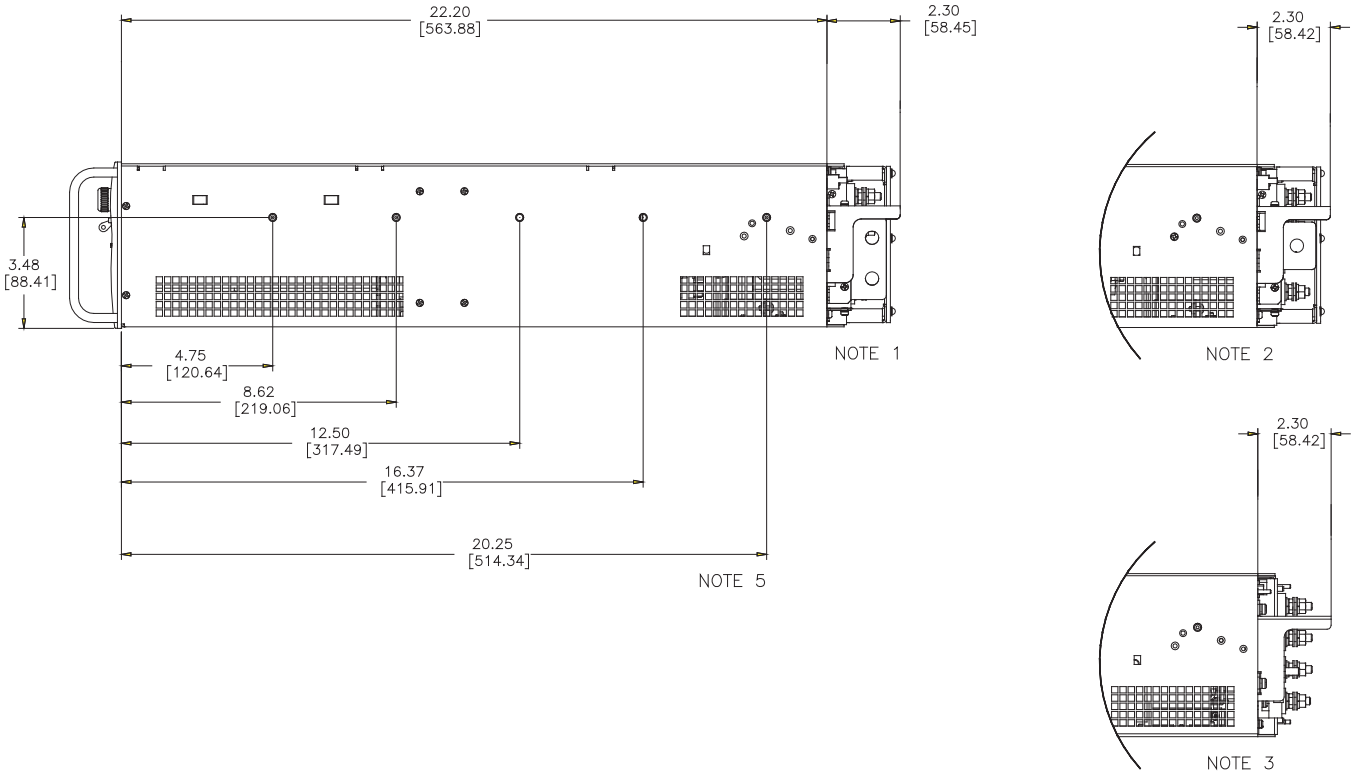
- Meets all LXI-C Requirements
- Address Viewable on Front Panel
- Fixed and Dynamic Addressing
- Fast Startup
- VISA & SCPI Compatible
- LAN Fault Indicators
- Auto-detects LAN Cross-over Cable
- Compatible with most standard Networks

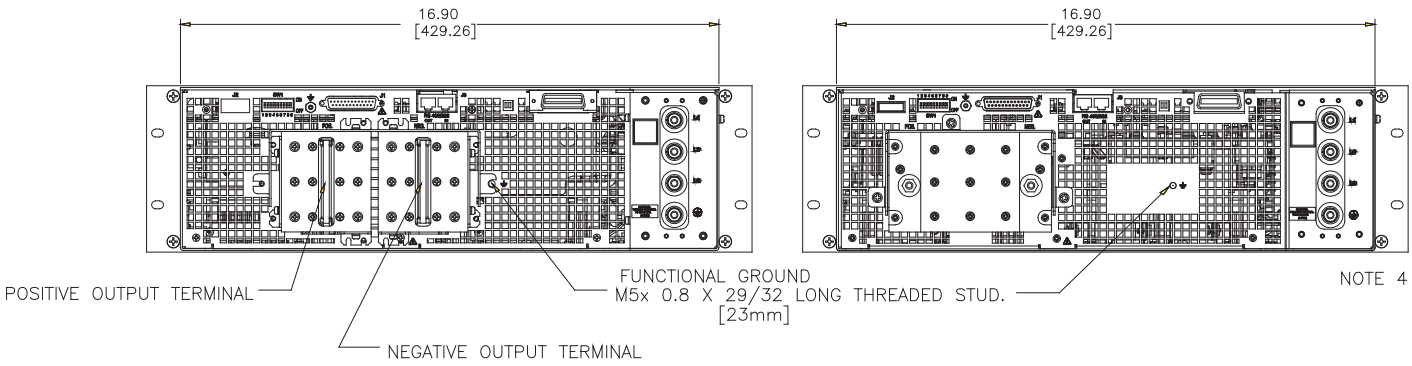
USB Interface

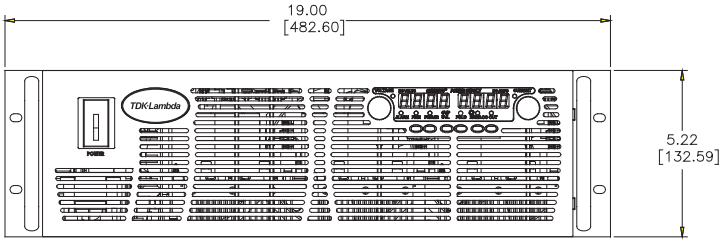
P/N: USB

- Allows Serial Connection to USB Port on computer
- Serial commands same as (standard) RS-232/RS-485 Interface

Outline Drawings Genesys™ 3U - 10/15kW







NOTES:
1. For models up to 30VDC Output two holes 0.42" Dia (10.72mm)
2. For models 40-300VDC Output one hole 0.42" Dia (10.72mm)
3. For models above 300V Output threaded stud terminal
4. Input Terminals M6x1 (3 + GND)
5. Mounting for Slide Mounts (not included).
   Recommend General Devices, Chassis Trak P/N C230-S-122.
   Secure with pan head screw M5x0.8-8mm long MAX.

Power Supply Identification / Accessories

How to order

GEN **10** - **1000** - _____ - _____

Factory Options

AC Input options

Series Name	Output Voltage (0~10V)	Output Current (0~1000A)	Option:	Factory Options	AC Input options
			:	IEMD	3P208 (Three Phase 208VAC)
				MD	3P400 (Three Phase 400VAC)
				IS510	3P480 (Three Phase 480VAC)
				IS420	
				LAN	
				USB	

Models 10/15kW

Model	Output Voltage VDC	Output Current (A)	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 40-250	0~40	0~250	10
GEN 50-200	0~50	0~200	10
GEN 60-167	0~60	0~167	10
GEN 60-250		0~250	15
GEN 80-125	0~80	0~125	10
GEN 80-187.5		0~187.5	15
GEN 100-100	0~100	0~100	10
GEN 100-150		0~150	15
GEN 125-80	0~125	0~80	10
GEN 125-120		0~120	15

Model	Output Voltage VDC	Output Current (A)	Output Power (kW)
GEN 150-66	0~150	0~66	10
GEN 150-100		0~100	15
GEN 200-50	0~200	0~50	10
GEN 200-75		0~75	15
GEN 250-40	0~250	0~40	10
GEN 250-60		0~60	15
GEN 300-33	0~300	0~33	10
GEN 300-50		0~50	15
GEN 400-25	0~400	0~25	10
GEN 400-37.5		0~37.5	15
GEN 500-20	0~500	0~20	10
GEN 500-30		0~30	15
GEN 600-17	0~600	0~17	10
GEN 600-25		0~25	15

Factory options

	P/N
RS-232/RS-485 Interface built-in Standard	-
GPIB (Multi-Drop Master) Interface	IEMD
Multi-Drop Slave Interface	MD
Voltage Programming Isolated Analog Interface	IS510
Current Programming Isolated Analog Interface	IS420
LAN Interface (Complies with LXI Class C)	LAN
USB Interface	USB

Accessories

1. Serial Communication cable

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

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

2. Serial link cable*

Daisy-chain up to 31 Genesys™ power supplies.

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

* Included with power supply

Also available Genesys™
1U Half Rack 750W
1U 750/1500W
2U 3.3/5kW

TDK·Lambda GLOBAL NETWORK

USA

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

CANADA

ACA TMetrix
5805 Kennedy Road, Mississauga, Ontario, L4Z 2G3
Tel: +1-800-665-7301 Fax: +1-905-890-1959
Email: lambda@aca.ca
tmetric.com

MEXICO

GADU
Rosas 139 Col. Bugambilias. Puebla, Pue. C.P. 72580
Tel: +52-800-211-0060 Fax: +52-264-1445
Email: julian@gadu.co..mx
www.gadu.com.mx

BRAZIL

Supplitec
Rua Sena Madureira 455, Belo Hte - 31340-000
Tel: +55-31-3498 1177 Fax: +55-31-3441 0841
www.suplitec.com.br

UK IRELAND

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

FRANCE NETHERLANDS SPAIN

TDK-Lambda France
ZAC des Delaches BP 1077 - Gometz le Chatel
91940 LES ULIS
Tel: +33 1 60 12 71 65 Fax: +33 1 60 12 71 66
www.fr.tdk-lambda.com

GERMANY AUSTRIA SWITZERLAND

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

ITALY

TDK-Lambda Italy
Via dei Lavoratori 128/130
IT 20092 Cinisello Balsamo (MI)
Tel: +39-02-6129-3863 Fax: +39-02-6129-0900
www.it.tdk-lambda.com

SCANDINAVIA BALTICS

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

JAPAN

TDK-Lambda Corporation
1-11-15 Dempa Bldg, 1-11-15 Higashi-Gotanda,
Shinagawa-Ku, Tokyo 141-0022
Tel: +81 3 3447 4693 Fax: +81 3 3447 4750
www.jp.tdk-lambda.com

CHINA

TDK-Lambda Shanghai Office
28F, Xingyuan Technology Building No.418, Guiping Road,
Shanghai, 200233 P.R. CHINA
Tel: +86-21-6485-0777 Fax: +86-21-6485-0666
www.cn.tdk-lambda.com

TDK-Lambda Beijing Office
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
www.cn.tdk-lambda.com

TDK-Lambda Hong Kong Office
Room. 8, 27/F, Mega Trade Center
1 Mei Wan St. Tsuen Wan, N.T.
Tel: +852-2420-6693 Fax: +852-2420-3362
www.cn.tdk-lambda.com

KOREA

TDK-Lambda Corporation
6F Songok Bldg. 4-1 Soonae-Dong
Pundang-Gu, Songnam-Shi Kyonggi-Do, 463-020
Tel: +82-2-556-1171 Fax: +82-2-555-2706
www.kr.tdk-lambda.com

MALAYSIA

TDK-Lambda Malaysia
No.7.3, 7th Floor, Jaya Shopping Center,
Jalan Semangat Section 14, 46100
Petaling Jaya Selangor, D.E
Tel: +60-3-7957-8800 Fax: +60-3-7958-2400
www.my.tdk-lambda.com

SINGAPORE PHILIPPINES THAILAND

TDK-Lambda Singapore
1008 Toa Payoh North # 06-01/08
Singapore 318996
Tel: +65-6251-7211 Fax: +65-6250-9171
www.sg.tdk-lambda.com

INDIA

TDK-Lambda India
New Bridge Business Centers
No. 412, 2nd Floor, Jinal Center, 100 Feet Road,
Kovamangala
Bangalore, 560 034
Tel: +91-80-64503815 Fax: +91-80-41467450
www.in.tdk-lambda.com

ISRAEL RUSSIA

Nemic Lambda Ltd.
Kibbutz Givat Hashlosha Tel-Aviv 48800
Tel: +972-3-9024-333 Fax: +972-3-9024-777
E-mail: info@nemic.co.il
www.nemic.co.il

Part No. 93-530-001 Rev. C

TDK-Lambda Americas Inc. 405 Essex Road, Neptune, NJ 07753 USA
Tel: +1 732 922 9300 Fax: +1 732 922 1441
www.us.tdk-lambda.com/hp