Genesys™

Programmable DC Power Supplies
10kW/15kW in 3U
Built in RS-232 & RS-485 Interface
Advanced Parallel Standard

Optional Interfaces:
IEEE488.2 SCPI (GPIB)
Isolated Analog Programming
LXI Compliant LAN

Genesys™ Family

GEN H	**750W Half-Rack**
GEN 1U	**750W/1500W/2400W Full-Rack**
GEN 2U	**3.3kW/5kW**
GEN 3U	**10kW/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 OEM, Industrial and Laboratory applications.

Features include:

- **High Power Density 10kW/15kW in 3U**
- **High Output 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 600Vdc; Output Current up to 1,000Adc**
- **Built-in RS-232/RS-485 Interface Standard**
- **Last Setting Memory; Front Panel Lockout**
- **"Advanced Parallel" configuration 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 Interface (0-5V/0-10V & 4-20mA)
  - IEEE 488.2 SCPI (GPIB) Multi-Drop
  - LXI Compliant LAN
- 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 used with the standard 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) 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 can be configured by the user to report the total Output current of the combination. Applications include Heaters, Magnets and Laser Diodes.

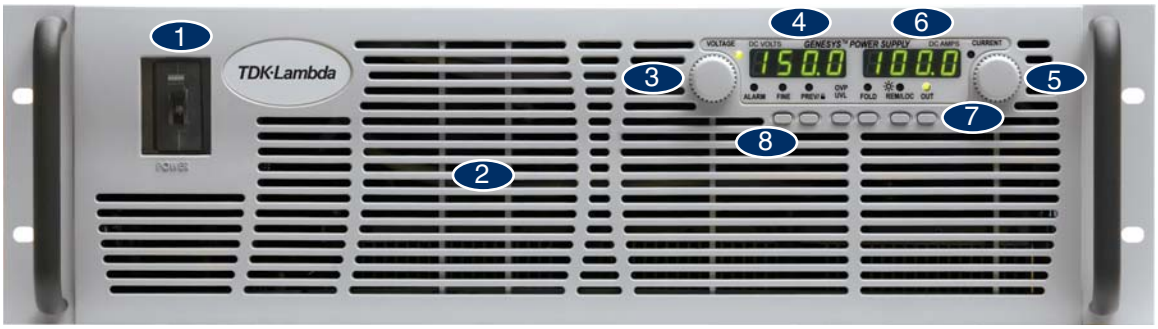
Aerospace & Satellite Testing systems use the complete Genesys™ Family: 1U-750W Half-Rack, 1U-750W/1.5kW/2.4kW Full-Rack, 2U-3.3kW/5kW Full-Rack and 3U-10kW/15kW Full-Rack. All are identical in Front Panel, Rear Panel Analog and Digital Interface Commands. A wide variety of Outputs (voltage and current)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

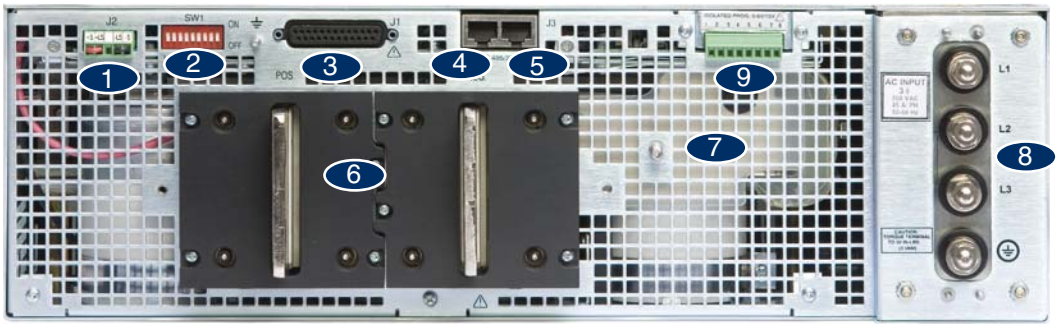
Semiconductor Processing & Burn-in equipment designers appreciate the wide variety of worldwide Inputs and Outputs from which to select, depending on application. Selectable Safe and Auto Re-start protects loads and process integrity. Typical applications include Magnets, Filaments and Heaters.

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 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
   - Parallel Master/Slave
   - Set OVP and UVL Limits
   - Set Current Foldback Protection
   - Go to Local Mode and select Address and Baud rate
   - Output ON/OFF and Auto/Safe Re-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 < 30Vdc Output, single hole busbars for 30Vdc to 300Vdc 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 Interface Position for IEEE 488.2 SCPI, Isolated Analog, or LAN Interface.

LAN Interface complies with LXI Class C Specification

Genesys™ 3U 10kW/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	80-125	100-100	10kW	15kW
1.Rated Output Voltage	Vdc	7.5	10	12.5	20	25	30	40	50	60	80	100	X	
2.Rated Output Current	Adc	1000	1000	800	500	400	333	250	200	167	125	100	X	
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	X	
4.Efficiency (min) at low line, 100% Rated Load	%	77	83										X	

1.0 MODEL	GEN	30-500	40-375	50-334	60-250	80-187.5	100-150	10kW	15kW
1.Rated Output Voltage	Vdc	30	40	50	60	80	100		X
2.Rated Output Current	Adc	500	375	334	250	187.5	150		X
3.Rated Output Power	kW	15.0	15.0	16.7	15.0	15.0	15.0		X
4.Efficiency (min) at low line, 100% Rated Load	%	88			88				X
1.1 CONSTANT VOLTAGE MODE (CV)	Contact Factory for other models								

1. Max. Line Reg (0.1% - Vor ≤ 30V; 0.01% - Vor > 30V)	mV	7.5	10	12.5	20	25	30	4	5	6	8	10	X	X
2. Max. Load Reg (0.1% - Vor ≤ 30V; 0.02% - Vor > 30V)	mV	7.5	10	12.5	20	25	30	8	10	12	16	20	X	X
3. Ripple r.m.s, 5Hz~1MHz, CV (*1)	mV	20	20	20	20	20	20	20	20	20	25	25	X	X
4. Output Noise p-p, (20MHz), CV (*1)	mV	60	60	60	60	60	60	60	75	75	100	100	X	X
5.Remote Sense Compensation / Wire	V	1	1	1	1	1	1.5	2	3	3	4	5	X	X
6. Temperature Stability	---	± 0.05% of Vo Rated over 8 hours, after 30 minute warm up, constant Line, Load & Temperature											X	X
7. Temperature Coefficient	ppm / °C	200 (0.02% of Vo Rated) / °C											X	X
8. Up-Prog. Response Time, 0 ~ Vomax, full-load	mS	100											X	X
9. Up-Prog. Response Time, 0~Vomax, no load	mS	50											X	X
10. Transient Response Time (CV mode) (*2)	mS	Less than 3											X	X
1.2 CONSTANT CURRENT MODE (CC)														
1. Max. Line Reg. (0.1% - Ior ≥ 333A;0.050% - Ior < 333A)	mA	1000	1000	800	500	400	333	125	100	83.5	62.5	50	X	
2. Max. Load Reg. (0.1% - Ior ≥ 333A; 0.075% - Ior < 333A)	mA	1000	1000	800	500	400	333	188	150	125	94	75	X	
1. Max. Line Reg. (0.1% - Ior ≥ 333A; 0.050% - Ior < 333A)	mA	500	375	334	125	94	75		X					
2. Max. Load Reg. (0.1% - Ior ≥ 333A; 0.075% - Ior < 333A)	mA	500	375	334	188	141	113		X					
3. Ripple r.m.s, 5Hz~1MHz, CC	mA	5100	5100	2600	2600	1700	1700	100	60	67	50	40	X	
3. Ripple r.m.s, 5Hz~1MHz, CC	mA	350	200	150	100	100	100		X					
4. Temperature Stability	---	± 0.05% of Io Rated over 8 hours, after 30 minute warm up, constant Line, Load & Temperature											X	X
5. Temperature Coefficient	ppm/°C	300 (0.03% of Io Rated) / °C											X	X

1.3 PROTECTIVE FUNCTIONS				
1. OCP	%	0 ~ 100	X	X
2. OCP type	---	Constant current	X	X
3. Foldback Protection	---	Output shutdown; 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% of 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 10 (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 (PS-OK) Signal	Yes. TTL High - OK, 0V (500ohm impedance)-Fail	X	X
9. CV/CC Signal	CV: TTL High (4 ~ 5V) source current: 10mA, CC: TTL Low (0 ~ 0.4V), sink current: 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 (coarse and fine adjustment selectable)	X	X
	OVP/UVL manual adjust by Voltage Adjust encoder, Front Panel Lock/Unlock	X	X
	Address selection by Voltage Adjust encoder. # 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: 1200, 2400, 4800, 9600 and 19,200. By current adjust encoder.	X	X
	Parallel Master Slave: Hx, where x = # of slaves (0 to 4)	X	X
2.Display	Voltage: 4 digits, Accuracy: ± 0.5% of Rated Vo ±1 count	X	X
	Current: 4 digits, Accuracy: ± 0.5% of Rated Io ±1 count	X	X
	Voltmeter displays Voltage at power supply (Local mode) or at load (Remote mode)	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 < 187.5Adc; ± 0.7% of rated output current for Io ≥187.5Adc	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	20mS maximum (between Vout exceeding IEEE Limit and supply inhibit turning On)	X	X
10. Other Functions	Set Over-Voltage Limit, Set Local/Remote	X	X

All specifications subject to change without notice.

Genesys™ 3U 10kW/15kW Specifications

1.0 MODEL	GEN	125-80	150-66	200-50	250-40	300-33	400-25	500-20	600-17	10kW	15kW
1.Rated Output Voltage	Vdc	125	150	200	250	300	400	500	600	X	
2.Rated Output Current	Adc	80	66	50	40	33	25	20	17	X	
3.Rated Output Power	kW	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	GEN	125-120	150-100	200-75	250-60	300-50	400-37.5	500-30	600-25		15kW
1.Rated Output Voltage	Vdc	125	150	200	250	300	400	500	600		X
2.Rated Output Current	Adc	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		X
4.Efficiency (min) at low line, 100% Rated Load	%	88									X
1.1 CONSTANT VOLTAGE MODE (CV)	Contact Factory for other models										
1. Max. Line Reg (0.1% - Vor ≤ 30V; 0.01% - Vor > 30V)	mV	12.5	15	20	25	30	40	50	60	X	X
2. Max. Load Reg (0.1% - Vor ≤ 30V; 0.02% - Vor > 30V)	mV	25	30	40	50	60	80	100	120	X	X
3. Ripple r.m.s, 5Hz~1MHz, CV (*1)	mV	25	25	35	35	60	60	60	60	X	X
4. Output Noise p-p (20MHz), CV (*1)	mV	125	150	175	200	200	300	350	350	X	X
5.Remote Sense Compensation / Wire	V	5	5	5	5	5	5	5	5	X	X
6. Temperature Stability	---	± 0.05% of Vo Rated over 8 hours, after 30 minute warm up, constant Line, Load & Temperature								X	X
7. Temperature Coefficient	ppm / °C	200 (0.02% of Vo Rated) / °C								X	X
8. Up-Prog. Response Time, 0~Vomax, full-load	mS	100								X	X
9. Up-Prog. Response Time, 0~Vomax, no load	mS	50								X	X
10. Transient Response Time (CV mode) (*2)	mS	Less than 3								X	X
1.2 CONSTANT CURRENT MODE (CC)											
1. Max. Line Reg (0.1% - Ior ≥ 333A; 0.05% - Ior < 333A)	mA	40	33	25	20	17	13	10	9	X	
2. Max. Load Reg (0.1% - Ior ≥ 333A; 0.075% - Io < 333A)	mA	60	50	38	30	25	19	15	13	X	
1. Max. Line Reg (0.1% - Ior ≥ 333A; 0.050% - Ior < 333A)	mA	60	50	38	30	25	19	15	13		X
2. Max. Load Reg (0.1% - Ior ≥ 333A; 0.075% - Ior <333A)	mA	90	75	56	45	38	28	23	19		X
3. Ripple r.m.s, 5Hz~1MHz, CC	mA	32	26	20	16	13	10	8	7	X	
3. Ripple r.m.s, 5Hz~1MHz, CC	mA	50	50	20	20	20	10	10	10		X
4. Temperature Stability	---	± 0.05% of Io Rated over 8 hours, after 30 minute warm up, constant Line, Load & Temperature								X	X
5. Temperature Coefficient	ppm / °C	300 (0.03% of Io Rated) / °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% of 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 10 (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 temp. 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 (PS-OK) Signal	Yes. TTL high-OK, 0V (500ohm impedance)-Fail	X	X
9. CV/CC Signal	CV: TTL high (4 ~ 5V) source current: 10mA, CC: TTL low (0 ~ 0.4V), sink current: 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 (coarse and fine adjustment selectable)	X	X
	OVP/UVL manual adjust by Voltage Adjust encoder, Front Panel Lock/Unlock	X	X
	Address selection by Voltage Adjust encoder. # 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: 1200, 2400, 4800, 9600 and 19,200. By current adjust encoder	X	X
	Parallel Master Slave: Hx, where x = # of slaves (0 to 4)	X	X
2.Display	Voltage: 4 digits, Accuracy: ± 0.5% of rated Vo ±1 count	X	X
	Current: 4 digits, Accuracy: ± 0.5% of rated Io ±1 count	X	X
	Voltmeter displays Voltage at power supply (Local mode) or at load (Remote mode).	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 OVP 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 Output voltage to recover within 2% of rating for a load current change of 50~100% or 100~50% of rated Output.

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

2.1 INPUT CHARACTERISTICS		
1. Input Voltage / Frequency (range)	---	208Vac (180-253), 400Vac (360-440), 480Vac (432-528); 47-63Hz (all)
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	Arms	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. above)
6. Power Factor	---	0.88 Passive
7. Leakage Current	mA	3.5 (EN60950) max.
8. Input Protection	---	208Vac: circuit breaker; 400Vac, 480VAC - line fuse
9. Input Overvoltage Protection		Unit shall not be damaged by line overvoltage of 120% nominal AC input vltage with maximum duration of 100usec.
10. Phase Imbalance	%	≤ 5% on Three-Phase Input

2.2 POWER SUPPLY CONFIGURATION	
1. Parallel Operation	Up to four (4) identical units may be connected in Master/Slave Mode with single wire connection (*3). 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 the front panel display of the Master unit. Remote Analog current monitor of the Master is scaled to the Output current of the Master unit (only).
2. Series Operation	Possible (with external diodes); Up to two identical units with total Output voltage not to exceed ± 600V from Chassis ground.

2.3 ENVIRONMENTAL CONDITIONS	
1. Operating Temperature	0 ~ 50°C, 100% load
2. Storage Temperature	-20 ~ 70°C
3. Operating Humidity	20 ~ 80% RH (non-condensing)
4. Storage Humidity	10 ~ 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 7500 ft. (2500m), 45°C from 7501 to 10,000ft (2501m - 3000m), Non-Operating 40,000 ft (12,000m)
7. Audible Noise	65dBA at full Load, measured 1m from front panel

2.4 EMC	
1. 208 Volt Input 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)
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 Emissions	EN55011A, FCC part 15J-A
8. Radiated Emissions	EN55011A, FCC part 15J-A
2. 400 Volt Input 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)
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 Test (400Vac Only).	IEC 61000-4-11
8. Conducted Emissions	EN55011A, FCC part 15J-A
9. Radiated Emissions	EN55011A, FCC part 15J-A

2.5 SAFETY	
1.Applicable Standards:	**UL/CUL 60950-1, EN60950-1 recognized.** Vout =< 40V: Output is SELV, IEEE/Isolated Analog/LAN/USB are SELV 40V < Vout =< 400V: Output is Hazardous; IEEE/Isolated Analog/LAN/USB are SELV 400V < Vout =< 600V: Output is Hazardous; IEEE/Isolated Analog/LAN/USB are not SELV, CE Mark 208 & 400Vac Inputs only (CB Scheme)
2. Withstand Voltage	Vout =<60V models: Input - Ground: 2818Vdc for 1min, Input - Outputs (SELV): 4242Vdc for 1min, Output - Ground: 1000Vdc for 1min 60 < Vout =< 300V models: Input - Ground: 2828Vdc for 1min, Input-Hazardous Output: 3535Vdc for 1min, Input - SELV: 2828Vdc for 1min Hazardous Output - SELV: 2121Vdc for 1min, Hazardous Output - Ground: 2121Vdc for 1min 300 < Vout =< 600V models: Input-Ground: 2828Vdc for 1min, Input-Hazardous Output: 3535Vdc for 1min, Input-SELV: 2828Vdc for 1min. Hazardous Output - SELV: 2688Vdc for 1min, Hazardous Output - Ground: 2688Vdc for 1min
3.Insulation Resistance	100Megohms 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. Dimensions (WxHxD)	W: 429mm / 16.9", H: 3U - 133mm / 5.22", D - 564mm / 22.2" (excluding connectors, encoders, handles, etc.)
3. Weight	43kg / 97lbs
4. AC Input connector (with Protective Cover)	3 x M6 x 1" threaded studs and terminal cover. Strain relief optional.
5.Output Connectors	Up to and including 300V Models: bus-bars. Greater than 300V Models: threaded stud terminals.
6.Control Connectors	Analog Programming: DB25, plastic connector, AMP747461-5, Female on Supply, Male on Mating connector 747321. Std 25 pin D connector.
7. Mounting Method	Standard 19" Rack Mount, provision for standard slides. Side/Rear Support is required; do not mount by F/P only.
8. Output Ground Connection	M5 Stud

2.7 WARRANTY	
1. Warranty	5 years.

*1. Ripple and Noise at Full Rated Voltage & Load at 25°C, 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.
*3. GENESYS™ 30V - 80V models require a two wire parallel Master/Slave connection. See Product User's Manual for details.

All specifications subject to change without notice.

Genesys™ Power Parallel and Series Configurations

Parallel operation - Master/Slave:

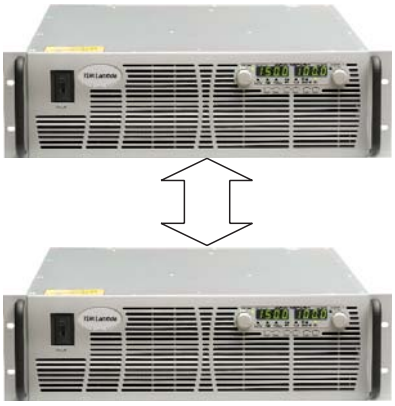
Active current sharing allows up to four identical units to be connected in an auto-parallel configuration for four times the Output power. In Advanced Parallel Master/Slave Mode, total current is programmed and reported by the Master, Up to four supplies act as one.

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.



Programming Options (Factory installed)

IEEE Multi-Drop Interface — P/N: IEMD

- Allows IEEE Master to control up to 30 (Standard) 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

Multi-Drop Slave Option is Standard — P/N: N/A

- Standard Units are equipped with the MD Slave (RS-485) function

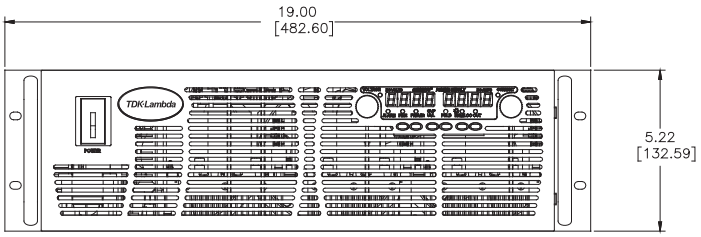
Isolated Analog Programming

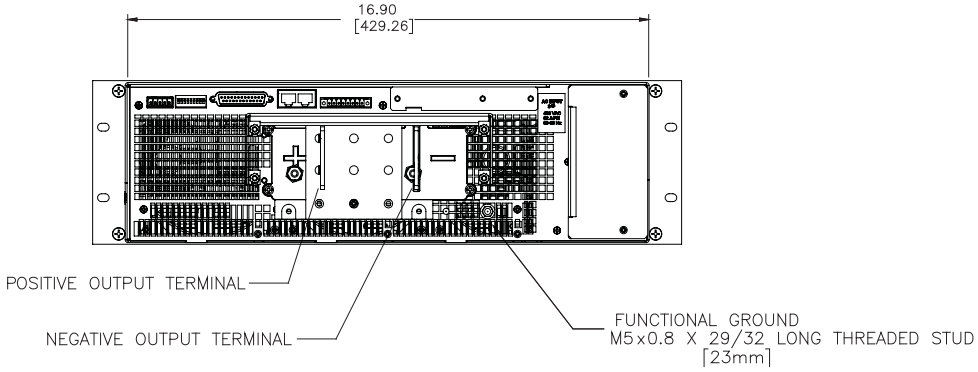
- Four Channels to Program and Monitor Voltage and Current.
- Isolation allows operation with floating references in harsh electrical environments.
- Choose between programming with Voltage or Current.
- Connection via removable terminal block: Phoenix MC1,5/8-ST-3.81.
- Voltage Programming, User-selectable 0-5V or 0-10V signal. — **P/N: IS510**
  - Power supply Voltage and Current Programming Accuracy: ±1%
  - Power supply Voltage and Current Monitoring Accuracy: ±1.5%
- Current Programming with 4-20mA signal. — **P/N: IS420**
  - Power supply Voltage and Current Programming Accuracy: ±1%

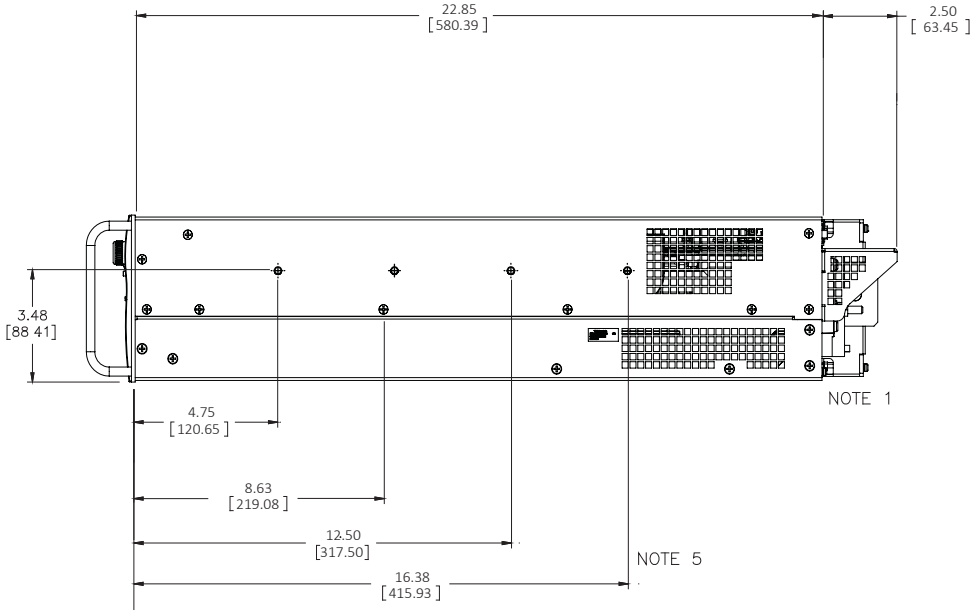
LAN Interface LXI Compliant to Class C — P/N: LAN

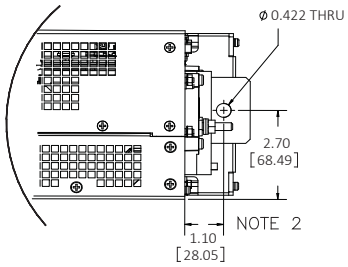
- Meets all LXI-C Requirements
- Address Viewable on Front Panel
- Fixed and Dynamic Addressing
- Fast Startup
- VISA & SCPI Compatible
- LAN Fault Indicators
- Auto-detects LAN Cross-over Cable
- Compatible with most standard Networks

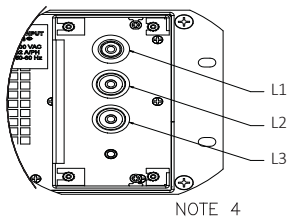
Outline Drawings: Genesys™ 10/15kW (30V to 80V - 400/480Vac)







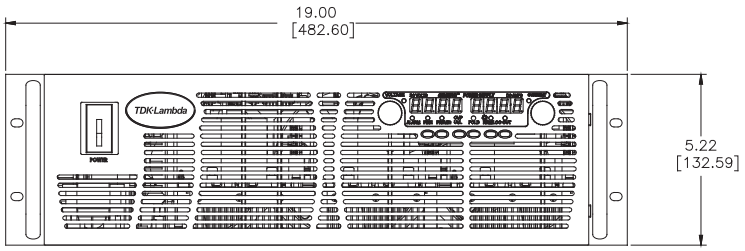


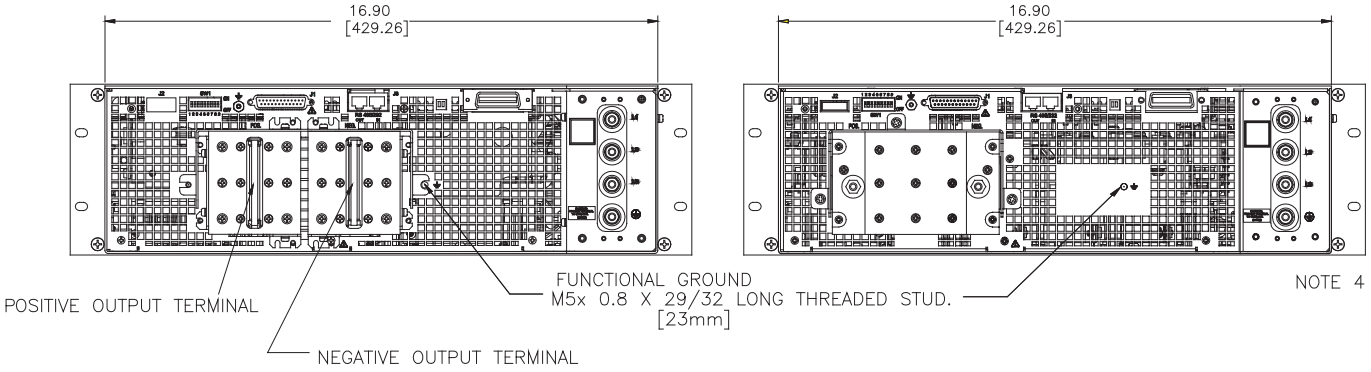


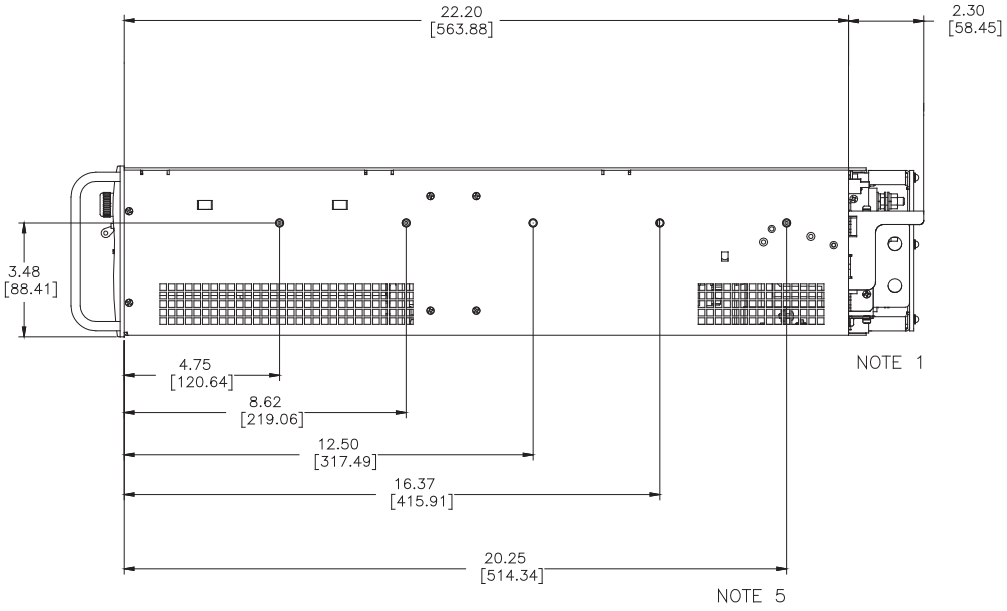
NOTES:

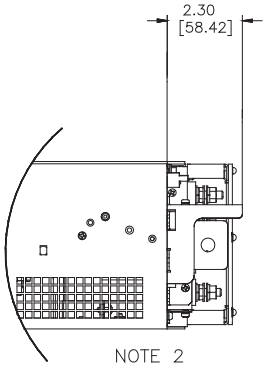
1. Bus bars for models < 30Vdc Output: two holes 0.42” Dia (10.72mm).
2. Bus bars for models 30-80Vdc Output: one hole 0.42” Dia (10.72mm).
3. N/A
4. Input Terminals M6 x 1 (3) + Ground M5 x 1 (2).
5. Mounting for Slide Mounts (not included).
   Recommend General Devices, Chassis Trak P/N C230-S-122.
   Secure with pan head screw M5 x 0.8-8mm long (max).

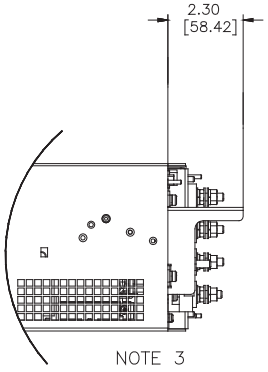
Outline Drawings: Genesys™ 10/15kW (All - 208Vac; 100V to 600V - 208/400/480Vac)











NOTES:

1. N/A
2. Bus bars for models 100-300Vdc Output: one hole 0.42” Dia (10.72mm).
3. Threaded stud terminal for models above 300Vdc Output.
4. Input Terminals M6 x 1 (3) + Ground M5 x 1 (2).
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 (Genesys™ 3U 10/15kW)

How to Order:

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

Factory Options

AC Input Options

Series Name	Output Voltage (0~10V)	Output Current (0~1000A)	Option:	IEMD IS510 IS420 LAN	3P208 (Three-Phase 208Vac) 3P400 (Three-Phase 400Vac) 3P480 (Three-Phase 480Vac)

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 30-500		0~500	15
GEN 40-250	0~40	0~250	10
GEN 40-375		0~375	15
GEN 50-200	0~50	0~200	10
GEN 50-300		0~334	16.7
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	Standard
Voltage Programming Isolated Analog Interface	IS510
Current Programming Isolated Analog Interface	IS420
LAN Interface (Complies with LXI Class C)	LAN

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	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*

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

Genesys™ Family - Output Voltage / Output Current

Model	GENH	GEN-1U			GEN-2U		GEN 3U	
Rated Power	750W	750W	1500W	2400W	3300W	5000W	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					220A			
0~16V				0~150A		0~310A	0~500A	
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							0~50A	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							0~25A	0~37.5A
0~500V							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
Weight (kg/lb)	4.5 / 9.9	7 / 15	8.5 / 18	10 / 22	13 / 29	16 / 35	43 / 97	43 / 97

AC Inputs

85-265Vac, 1Ø	• (1)	• (1)	• (1)					
230Vac, 1Ø				• (1	• (1)			
208Vac, 3Ø				• (1	• (1)	• (1)	• (2)	• (2)
400Vac, 3Ø					• (1)	• (1)	• (2)	• (2)
480Vac, 3Ø							• (3)	• (3)

(1) UL Listed; CE Mark, (2) UL Recognized; CE Mark, (3) UL Recognized

Options (All Models)

IEMD	GPIB Master (IEEE 488.2 SCPI)
MD	GPIB or LAN Slave enabled (standard for GEN-3U)
IS420	Isolated Analog Programming (4-20mA)
IS510	Isolated Analog Programming (0-5V or 0-10V, User-selectable)
LAN	LXI Compliant LAN Interface

(All options are factory installed and limited to one per power supply) All specifications subject to change without notice.

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