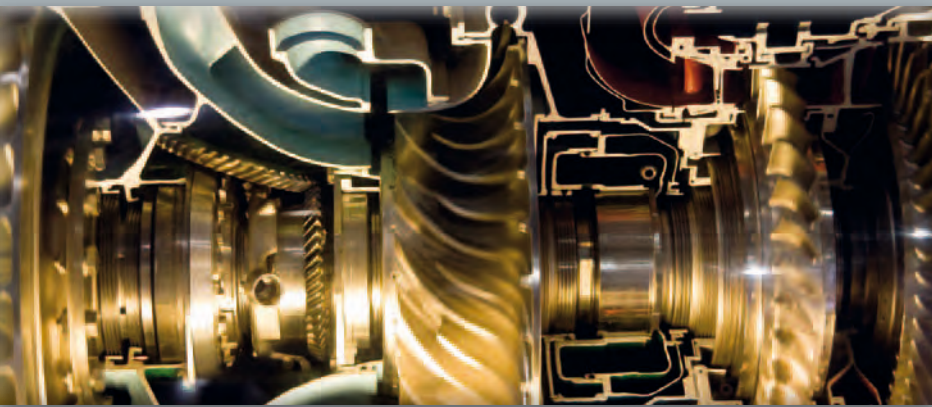


Product News: Programmable Power Supplies

May 2014



New models extend Genesys™ 3.3/5 kW in 2 U 19" rack



Leading power supply manufacturer TDK-Lambda adds further models to its popular Genesys™ 3.3 kW and 5 kW compact 2 U format programmable Power Supplies to increase application reach. The new models offer the same high efficiency, flexibility and reliability for which TDK-Lambda Genesys™ products have be-come well renowned. The new 200 V, 400 V and 500 V output versions complement existing models in the Genesys™ 2 U portfolio.

Model NEW	Output voltage V DC	Output current (A)	Output power (W)
GEN-200-16.5	0 ~ 200 V	0 ~ 16.5 A	3300 W
GEN-200-25	0 ~ 200 V	0 ~ 25 A	5000 W
GEN-400-13	0 ~ 400 V	0 ~ 13 A	5200 W
GEN-500-10	0 ~ 500 V	0 ~ 10 A	5000 W

Other voltages and output powers on request.
Please visit our website www.emea.tdk-lambda.com

Applications

- Solar Array Manufacturing
- Water Purification
- FPD – Flat Panel Display Manufacturing
- Automotive: Real Time Simulation of Electric Motors

Genesys™ 750/1500 W in 1 U with Power Sink



The market leading Genesys™ Programmable Power Supplies offer a wide variety of useful integrated functions and features, making them into an extremely effective and easy to use tool for many applications. Now Genesys™ 1 U 750 W and 1500 W models are available with a Power Sink Option (PSINK) that can absorb energy from the load.

Models NEW	750 W	1500 W
	GEN12.5-60	GEN12.5-120
	GEN20-38	GEN20-76
	GEN30-25	GEN30-50
	GEN40-19	GEN40-38
	GEN12.5-60	GEN60-25

Major Features of the Power Sink

- Can absorb 200 W peak power
- Maintains output voltage setting regardless of whether output power is positive or negative (source and sink)

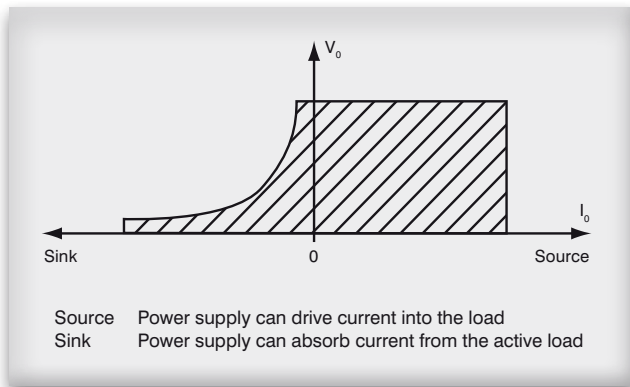
How to create a Product Code

GEN	60	-	25	-		-		-	LN
Series name	Output voltage		Output current		Option: IEEE IS510 IS420 LAN		PSINK		(Low Noise) Up to 60 V only

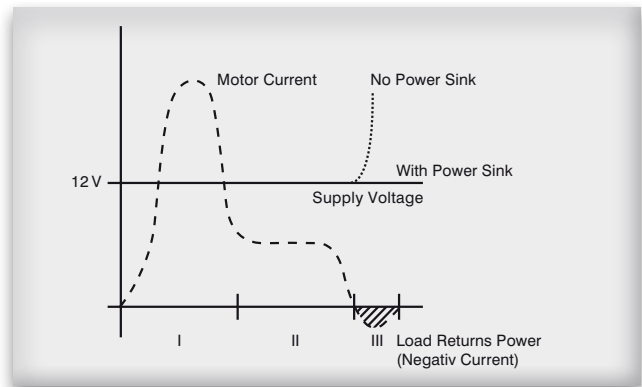
Applications

- Ideal solution for testing electric motors with PWM-speed control. These systems often return power to the power supply during braking conditions.
- ATE systems requiring fast down programming at no load conditions
- Testing capacitors and batteries
- Automotive Motor Test eg. power window drives, mirror and seat adjustment

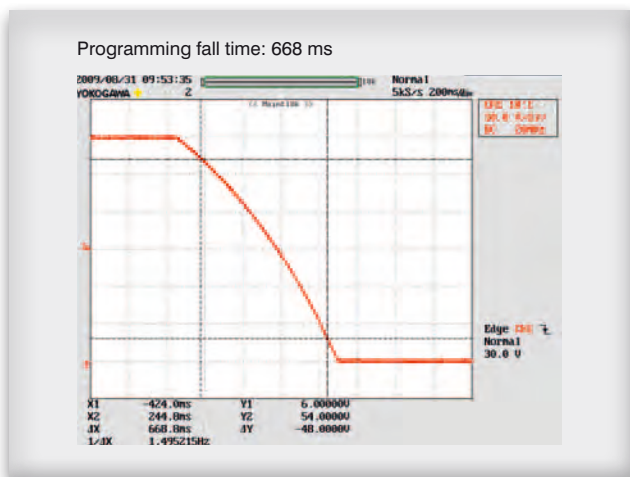
Source and Sink



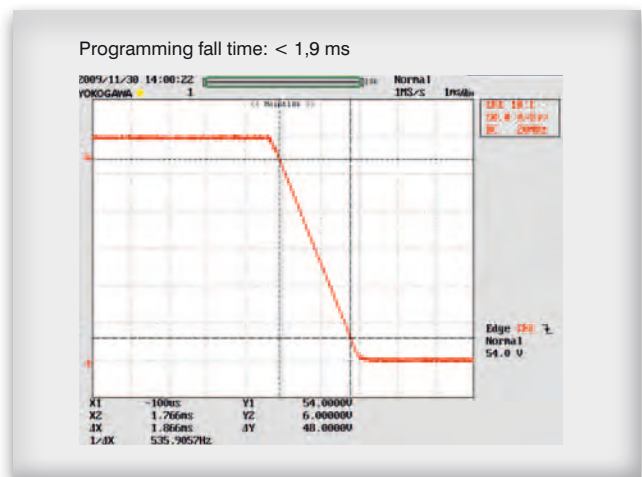
Typical load current PWM - controlled DC motor



Model GEN 60-25 **no** Power Sink



Model GEN 60-25 **with** Power Sink



Specifications Genesys™ 750 W Power Sink / 1500 W Power Sink

Specifications		GEN12.5-60 Option PSINK	GEN12.5-120 Option PSINK	GEN20-38 Option PSINK	GEN20-76 Option PSINK
Sink power rating					
Max. peak power (thermal limited) Tamb = 25 °C	W	200			
Max. peak power (thermal limited) Tamb = 50 °C	W	100			
Max. sink peak power duration	Sec	30			
Recovery time for max. peak power	Sec	1200 / 900			
Max. continues power, Tamb = 25 °C	W	45 / 55			
Max. continues power, Tamb = 50 °C	W	30 / 35			
Power derate above 25 °C	% / °C	1.33 / 1.5			
Duty cycle for use at peak power					
Psink = 80 W, Tamb = 25 °C	Sec	ton <= 10 Sec, toff >= 10 Sec			
Psink = 80 W, Tamb = 25 °C	Sec	ton <= 20 Sec, toff >= 21 Sec			
Psink = 80 W, Tamb = 25 °C	Sec	ton <= 30 Sec, toff >= 36 Sec			
Psink = 120 W, Tamb = 25 °C	Sec	ton <= 10 Sec, toff >= 22 Sec			
Psink = 120 W, Tamb = 25 °C	Sec	ton <= 20 Sec, toff >= 50 Sec			
Psink = 120 W, Tamb = 25 °C	Sec	ton <= 30 Sec, toff >= 90 Sec			
Psink = 160 W, Tamb = 25 °C	Sec	ton <= 10 Sec, toff >= 40 Sec			
Psink = 160 W, Tamb = 25 °C	Sec	ton <= 20 Sec, toff >= 90 Sec			
Psink = 160 W, Tamb = 25 °C	Sec	ton <= 30 Sec, toff >= 170 Sec			
Power derate above 25 °C	% / °C	2			
Protection		Electronic power limit, over current protection, thermal overload protection			
Max. sink current	A	65		65	
Sink over voltage protection typical trip point (higher sink current than the maximum sink current will case the output voltage to rise)	V	15.5 - 19.5		23.5 - 27.5	
Thermal overload protection		Power sink thermal overload, power supply shut down and output is shorted.			
Recovery time / deviation		GEN12.5		GEN20	
Load current switches from positive to negative					
Vout = 6 V, Iout = +20 A → -10 A / Vout = 6 V, Iout = +40 A → -15 A					
Deviation	V	0.4	0.5	0.5	0.6
Percentage	%	6.67 %	8.33 %	8.33 %	10.00 %
Recovery to 0.5 % or 100 mV whichever is greater	mSec	5.5	5.5	10.5	10.5
Vout = 12.5 V, Iout = +15 A → -5 A / Vout = 12.5 V, Iout = +30 A → -10 A					
Deviation	V	0.35	0.4	0.45	0.55
Percentage	%	2.80 %	3.20 %	3.60 %	4.40 %
Recovery to 0.5 % or 100 mV whichever is greater	mSec	2.5	2.5	8	8
Vout = 20 V, Iout = +12 A → -4 A / Vout = 20 V, Iout = +25 A → -8 A					
Deviation	V			0.43	0.5
Percentage	%			2.15 %	2.50 %
Recovery to 0.5 % or 100 mV whichever is greater	mSec			6.5	6.5
Vout = 30 V, Iout = +10 A → -2A / Vout = 30 V, Iout = +20 A → -3 A					
Deviation	V				
Percentage	%				
Recovery to 0.5 % or 100 mV whichever is greater	mSec				
Vout = 40 V, Iout = +8 A → -1 A / Vout = 40 V, Iout = +15 A → -2 A					
Deviation	V				
Percentage	%				
Recovery to 0.5 % or 100 mV whichever is greater	mSec				
Vout = 60 V, Iout = +5 A → -1 A / Vout = 60 V, Iout = +10 A → -1 A					
Deviation	V				
Percentage	%				
Recovery to 0.5 % or 100 mV whichever is greater	mSec				
Programming down speed		12.5 → 0 V		20 → 0 V	
Fall time (90 % - 10 %)	mSec	<3		<3	
Note: Values are typical at 25 °C					

GEN30-25 Option PSINK		GEN30-50 Option PSINK		GEN40-19 Option PSINK		GEN40-38 Option PSINK		GEN60-12.5 Option PSINK		GEN60-25 Option PSINK		Remarks
												100 % load
												100 % load
45		18		10		10		Auto recovery				
37.5 - 42.5		47.5 - 52.5		75 - 80		75 - 80		Auto recovery				
												Refer to GEN user manual OTP
GEN30				GEN40				GEN60				
0.75 12.50 % 24	0.8 13.33 % 24											
0.67 5.36 % 17.5	0.75 6.00 % 17.5	0.8 6.40 % 35	0.9 7.20 % 35									
0.66 3.30 % 15	0.75 3.75 % 15	0.78 3.90 % 28	0.9 4.50 % 28									
0.6 2.00 % 10	0.7 2.33 % 10	0.67 2.23 % 15	0.75 2.50 % 15	0.63 2.10 % 13				0.7 2.33 % 13				
		0.65 1.63 % 12	0.75 1.88 % 12	0.6 1.50 % 8				0.7 1.75 % 8				
						0.5 0.83 % 6	0.55 0.92 % 6					
30 → 0 V		40 → 0 V				60 → 0 V						
<3		<3				<3				No load		

Genesys™ LAN 2.0 Interface



The optional LAN Interface for Genesys™ power supplies has been upgraded to provide many new features including functionality for users outside of Test and Measurement. We now offer TCP and UDP networking protocols for alternative operating systems, programming languages and controllers. The option maintains LXI-C Certification.

- **Adds TCP and UDP Sockets**

LAN 2.0 expands connectivity for many customers beyond standard test software, operating systems and controllers.

- **Change IP Address using Front Panel Current Encoder**

The current encoder will change the IP address. Locking in a new address requires a confirmation button press, to prevent accidental changes. Address conflicts (duplicate IP) are prevented.

- **The LAN remains LXI-C Certified**

- **Adds Multiple Controllers**

The new LAN allows two or more controller devices to “talk” to the power supply at the same time. The controllers may use any mix of TCP, UDP or VISA protocols.

- **Duplicate IP Recovery**

If the user accidentally sets a duplicate IP address, which is already used by another device, LAN 2.0 will reconnect to the last working address instead of disconnecting from the network. A Front Panel and/or web page alert is posted to the user.

- **Higher Capacity Input Buffer**

The number of commands that may be sent at once has been increased from four to twenty commands.

- **Adds Network Security Setting**

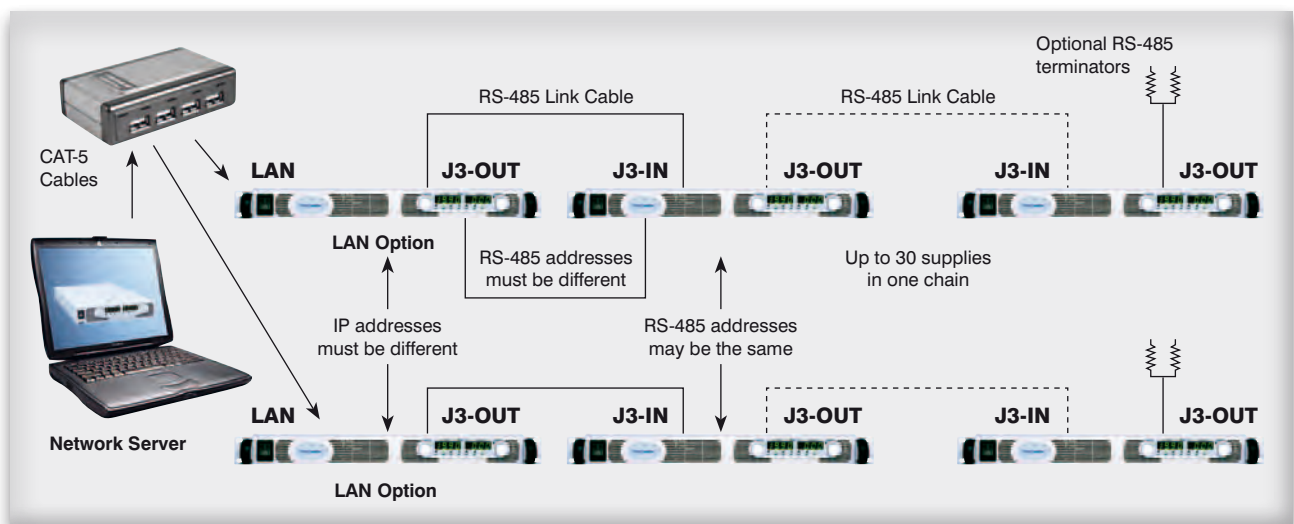
A new security button, on the web page, can be set for “allow only one controller using a secure protocol” or “allow everybody at the same time” to talk to the power supply. (Note: UDP is not a secure protocol, TCP and VISA are secure).

- **Improves Message Terminators**

The traditional terminator for messages is the Line-Feed character. The new LAN 2.0 sockets will accept and return the line-feed.

- **Improved LAN User Manual**

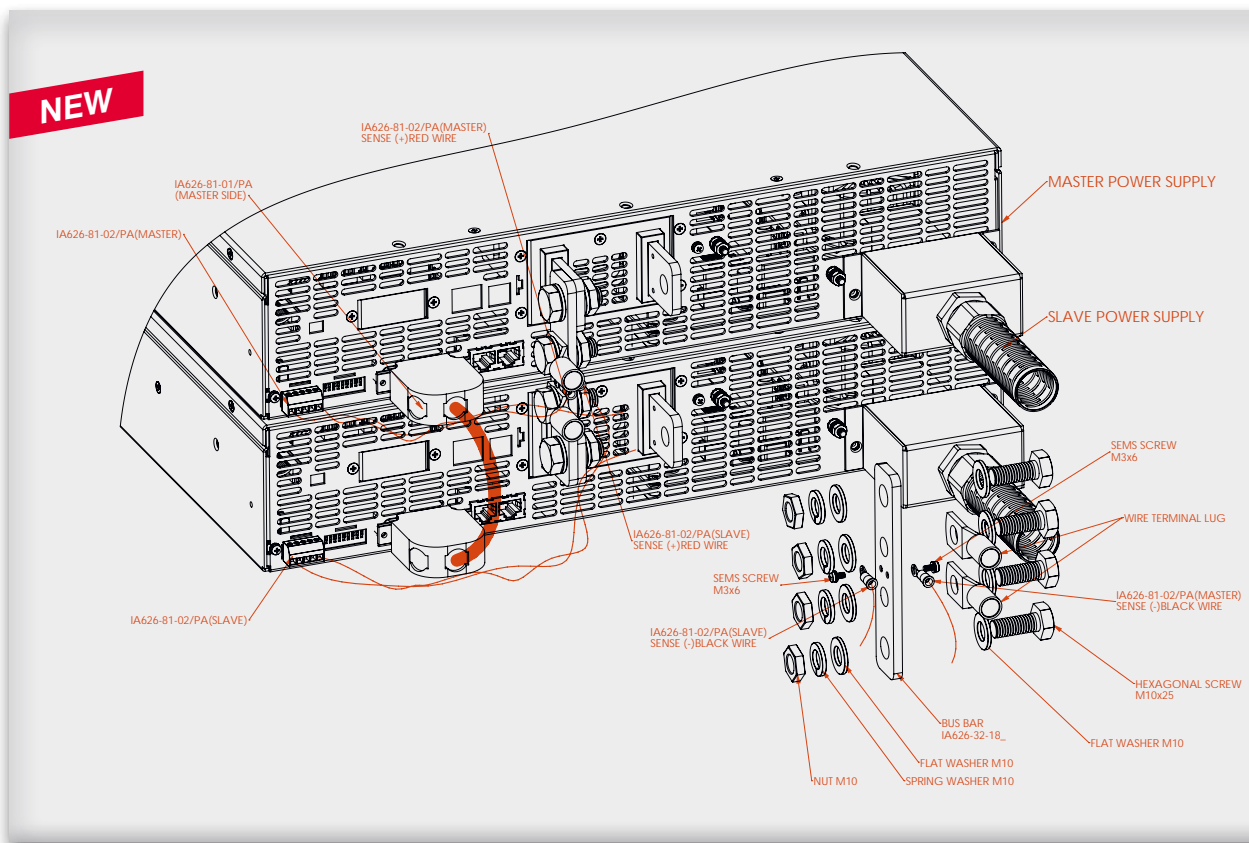
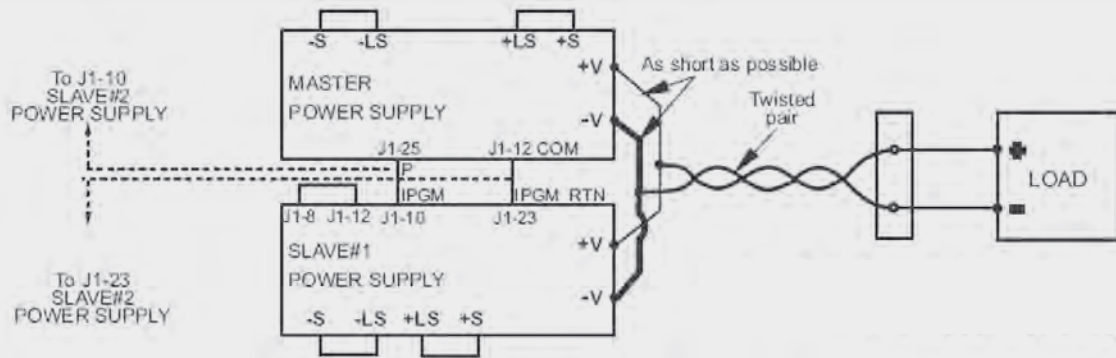
New manual includes specification on command speed. And has an easier to use layout.



Genesys™ 2 U Parallel Kit - 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 unit so that up to four Power Supplies can appear as just a single larger supply.



P/N of Genesys 2 U Parallel Kit

- GEN2U-LV – Parallel (8 V / 10 V)
- GEN2U-MV – Parallel (16 V to 100 V)
- GEN2U-HV – Parallel (150 V to 600 V)

KIT P/N for GEN30-165

- GEN2U-MV-PA

Kit contains the following items:

- Bus bar for parallel operation - 2 sets
- M10 x 25 screw - 4 sets
- J1 DB25 Master Slave harness
- +/- Sense harness - 2 sets