

Programmable Power Supplies Deliver 2 Or 3 kVA Of AC Power In 1U Chassis

From [TDK](#), the TDK-Lambda brand GENESYS AC (GAC) and GENESYS AC PRO (GAC-PRO) series of 2-kVA and 3-kVA rated programmable ac power sources represent a significant expansion in the test and measurement capability of the GENESYS series of 750-W to 90-kW programmable dc power supplies. With a 1U chassis height, the GAC and GAC-PRO provide the highest power density for a fully featured programmable ac power source. See the figure and the table.

The GENESYS AC PRO models (GAC-PRO) offer a higher level of dc functionality with the ability to allow ac, dc, or combined ac+dc operation. The models allow full-rated power and current in dc modes, and advanced functions such as waveform generation and harmonics analysis as standard. The GENESYS AC PRO also includes real-time analog control functionality necessary for more complex test scenarios, such as hardware in the loop (HIL). Other applications for these models include automated test equipment, avionics airborne equipment, aircraft electrical power, defense (RTCA, Boeing, Airbus Standards), automotive, e-mobility, and power source testing.

TDK-Lambda's advanced parallel system provides characteristics comparable with those of a single power supply. 2-kVA and 3k-VA units may be user-combined for additional power and to provide multiple-phase outputs. The front panel controls can be accessed through a capacitive touch display, providing increased robustness over mechanical switches. Multiple languages are catered to, including, Chinese, English, French, German, Japanese, Korean, and Spanish.

LAN, USB, RS232, RS485, and analog programming/monitoring are provided as standard with optional IEEE/GPIB. The included remote GUI software allows the user full control and sequence programming, plus the option to use pre-programmed test standards for common IEC, aerospace, and marine tests. These standards will dramatically reduce test time, consistency, and labor cost compared to traditional manual set-ups.

Dimensions of the GAC02 and GAC03 are 423 mm wide x 544.5 mm deep x 43.6 mm high, and the weight is less than 8 kg. The five-year warranty series is safety-certified to IEC/EN/UL 61010-1 with CE and UKCA marking to the Low Voltage, EMC, and RoHS directives. The models also comply with IEC/EN 61204-3 for conducted and radiated EMI (Class A) and EMC immunity.

In the next few months, TDK-Lambda will expand the GENESYS AC line with additional power levels of 6 and 9 kVA. Further information on the GAC02 and GAC03 series can be found on the GENESYS AC Sources [page](#).



Figure. The GENESYS AC (GAC) and GENESYS AC PRO (GAC-PRO) series of 2-kVA and 3-kVA rated programmable ac power sources target applications such as automated test equipment, avionics (airborne equipment, aircraft electrical power), defense (RTCA, Boeing, Airbus Standards), automotive on-board chargers, e-mobility, and power source testing. The AC PRO models (GAC-PRO) offer a higher level of dc functionality with the ability to allow ac, dc, or combined ac+dc operation.

Table. Key data for the GENESYS AC (GAC) and GENESYS AC PRO (GAC-PRO) series of programmable ac power sources.

Specification/feature	Unit	GAC02	GAC03
Output power	VA	2000	3000
Output voltage	V	0 to 350 Vac, ±500 Vdc (GAC-PRO)	
Output current	Arms	20	30
Output frequency	Hz	16 to 1200 (16 to 5000 GAC-PRO)	
Input voltage range	Vac	100 to 240, three-phase 200 and 480	
Efficiency	%	Up to 82.5	
Safety certifications	-	IEC/EN/CSA/UL 61010-1	
Size (W x D x H)	mm	423 x 544.5 x 43.6	
Other standard features	-	LAN, USB, RS232, RS485 and Isolated analogue	
Warranty	-	Five years	