

Power Supplies

New Rack DC Power Systems Deliver High Power Advanced Programmable DC Solutions

March 4th, 2022

TDK Corporation announces the introduction of the [TDK-Lambda 30kW-60kW Advanced Programmable Rack DC Power Systems](#) into the [GENESYS™ Programmable DC Power Supply Series](#).

This power platform expands beyond the existing rack-mount product offering into markets that utilize high power stand-alone rack DC power systems that include Automotive, Industrial, Aerospace, Renewable/Alternative Energy and Applied R&D in applications such as Battery/Component Validation/Test, Water Treatment, Hydrogen Generation, High-Reliability Power System Emulation and Photovoltaic Inverter, Fuel Cell and Battery Research & Development.

Built into a 23U high x 22 inch wide (553mm) x 36 inch deep (902mm) stand-alone rack, the [30kW-60kW GENESYS™ Advanced Programmable Rack DC Power System](#) platform offers five embedded front panel setup menus that address *Digital Communication*, *Protective Functions*, *Operating and System Configurations*, and *Waveform Control/Triggering*. These embedded menus offer advanced user-selectable functions including *Slew-Rate control* of Output voltage/current, *Internal Resistance simulation*, *Arbitrary Waveform Generation with Auto-Trigger*, *Pre-Load ON/OFF control*, *ENABLE/DISABLE polarity selection* and *Control pin Enable/Disable* (for external load disconnect or polarity reversal).

Fourteen models are currently available from 10V to 600V (with Output current up to 4500A), can operate in *Constant-Current (CC)*, *Constant-Voltage (CV)* and *Constant-Power (CP)* limit and have conversion efficiencies up to 90%. Three-phase AC Input options include 208VAC (170~265VAC) or a wide-range 400VAC/480VAC (342~528VAC) and have built-in active Power Factor Correction (0.94 typical) with cooling fan speed control (for reduced audible noise and extended life).

Standard safety features include user-selectable *Safe-Start/Auto Re-Start*, *Last Setting Memory* and *Watch-Dog Timer* along with other built-in protective functions that include Output Over-Voltage Protection (**OVP**), Output Under-Voltage Limit (**UVL**), Output Under-Voltage Protection (**UVP**), Fold-Back protection (**FOLD**) for CV or CC mode, Output Over-Current Limit (**OCL**), Over-Temperature protection (**OTP**) and AC Input Under-Voltage Protection (**AC FAULT**).

All model functions can be programmed locally via the menu-driven front panel display or remotely using instrument software drivers with any one of the **three** built-in standard Digital interfaces (**LAN (LXI 1.5)**), **USB (2.0)**, **RS-232/RS-485**). Other programming interfaces include the built-in standard **Isolated Analog Program/Monitor/Control Interface** and the optional **IEEE (IEEE 488.2)**, **EtherCAT** and **Modbus-TCP** Digital interfaces.

The [GENESYS™ 30kW-60kW Programmable Rack DC Power System](#) platform carries a two (2) year warranty, has Safety certifications to IEC/EN 61010-1 and carries both the **CE** and **UKCA** marks (in accordance with the Low Voltage, EMC (IEC/EN61204-3; industrial environment) and RoHS Directives).

For more information about the *TDK-Lambda GENESYS™* Programmable Rack DC Power System platform, please visit <https://www.us.lambda.tdk.com/products/programmable-power/genplus-rack-dc-systems.html> and for additional Sales or Technical Support please visit <https://www.us.lambda.tdk.com/contact/>.

Also, available are the Advanced *GENESYS™* Rack-Mount Programmable DC Power Supply Series at <https://www.us.lambda.tdk.com/products/programmable-power/genesys-plus.html> and the General-Purpose *Genesys™* Rack-Mount Programmable DC Power Supply Series at <https://www.us.lambda.tdk.com/products/programmable-power/genesys.html>.

These, along with a wide range of other *TDK-Lambda Americas* Programmable & High Voltage power supplies can be viewed from the *TDK-Lambda Americas* website at <https://www.us.lambda.tdk.com/>.

Major Applications

Programmable Rack DC Power Systems for Automotive, Industrial, Aerospace, Industrial, Alternative Energy and Applied R&D applications such as:

- **Battery/Motor Validation/Test**
- **eV Power Train Systems**
- **Water Treatment**
- **Hydrogen Generation**
- **Aerospace Power System Emulation**
- **Photovoltaic Inverter, Fuel Cell and Battery R&D**
- **Beam Steering Magnets**
- **Test & Measurement Systems**

Major Specifications

Output Power	30kW	45kW	60kW
Voltage Rating	10V to 600V	10V to 600V	20V to 600V
Current Rating	Up to 3000A	Up to 4500A	Up to 3000A
AC Input Voltage	Three-phase 208VAC (170-265VAC) Wide-range Three-phase 480VAC (342-528VAC)		
Power Factor	0.94 (typical)		
Efficiency	Up to 90%		
Operating Modes	Constant-Voltage (CV) and Constant-Current (CC) w/ Auto-Crossover Constant-Power (CP) Limit		
Safety Features	Safe-Start, Auto-Restart, Last Setting Memory, Watch-Dog Timer		
Protection Features	Front Panel Lock/Unlock, Output Over-Voltage Protection (OVP), Output Under-Voltage Limit (UVL), Output Under-Voltage Protection (UVP), Fold-Back protection (FOLD) for CV or CC mode, Output Over-Current Limit (OCL), Over-Temperature protection (OTP) and AC Input Under-Voltage protection (AC FAULT)		

Advanced Features	Arbitrary Waveform Generation with Auto-Trigger, Memory Cells for Waveform Storage, Recall and Run, Slew-Rate control of Output voltage/current, Internal Resistance simulation, Output Enable/Disable with Polarity selection, Interlock control, Trigger-IN/Trigger-OUT capability, Internal Pre-Load ON/OFF control, Built-in Control pins (for external load disconnect or polarity reversal)		
Options	Blank Front Panel		
Built-In Interfaces	LAN (LXI 1.5), USB (2.0), RS-232/RS-485, Isolated Analog (5V/10V)		
Optional Interfaces	IEEE (488.2), EtherCAT, Modbus-TCP		
Software	LabView/LabWindows Instrument Software Drivers Application Software (Waveform Creator GUI and Virtual Front Panel GUI)		
Cooling	Front-to-rear forced air by internal fans; Ta = 0°C to +50°C		
Size	Height: 23U – 40.5in (1028mm); Width: 22in (553mm); Depth: 36in (902mm) including casters		
Weight	< 337lbs (153kg)	< 390lbs (177kg)	< 440lbs (200kg)
Safety	IEC/EN 61010-1		
EMC	IEC/EN 61204-3 (Industrial Environment)		
Warranty	2yrs		

About TDK Corporation

TDK Corporation is a world leader in electronic solutions for the smart society based in Tokyo, Japan. Built on a foundation of material sciences mastery, TDK welcomes societal transformation by resolutely remaining at the forefront of technological evolution and deliberately “Attracting Tomorrow.” It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK’s comprehensive, innovation-driven portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in automotive, industrial and consumer electronics, and information and communication technology. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2021, TDK posted total sales of USD 13.3 billion and employed about 129,000 people worldwide.

About TDK-Lambda Corporation

TDK-Lambda Corporation is a trusted, innovative leader and global supplier of highly reliable power conversion products for industrial and medical equipment worldwide. TDK-Lambda Corporation is aligned for fast responses to any customer need with R&D, manufacturing, sales and service locations in five key geographic regions, namely Japan, EMEA, Americas, China and ASEAN.

For more details, please pay a visit to: www.jp.lambda.tdk.com/en/

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