

## Power Supplies

# High Power Density 1U Full-Rack 7.5kW Advanced Programmable DC Power Supply Platform Extended with Six New Models

August 8, 2023

TDK Corporation (TSE 6762) announces the addition of six new single Output models to the [TDK-Lambda high power density 1U Full-Rack 7.5kW Advanced Programmable DC Power Supply platform](#). These include the **30V-250A, 60V-125A, 80V-94A, 200V-37.5A, 300V-25A** and **1000V-7.5A** models and now provide the user with twelve 7.5kW models that span from 20V to 1500V with target applications in the Automotive (eV and Hybrid Subsystem, Battery & Component Test), Renewable Energy, Industrial, Test & Measurement, Semiconductor Fabrication and Applied Research & Development market segments.

Carrying a **five (5) year warranty** and built into a 1U (1.72") high, 16.7" (423mm) wide, and 19.2" (486.5mm) deep bench-top/rack-mount mechanical profile, the **GENESYS+™** 7.5kW Power Supply platform offers the highest power density and high efficiency (up to 92%) in a lightweight package (18.7lbs/8.5kg) with cooling fan speed control for reduced audible noise and extended life.

All models offer three-phase AC Input options of **208VAC** (170~265VAC) or a **wide-range 400VAC/480VAC** (342~528VAC) with built-in Power Factor Correction (0.94 typical) and are capable of Constant-Voltage (CV) and Constant-Current (CC) mode operation with automatic crossover between operating modes.

The **GENESYS+™** 7.5kW platform offers several advanced functions including **Constant-Power Limit** operation, **Internal Resistance Simulation**, and **Slew-Rate Control** of Output voltage/current. **Waveform test profiles**, such as vehicle battery start-up simulation, of up to 100 steps can also be generated and stored in four on-board memory cells and can be recalled and activated via the front panel display controls or Remote Digital communication.

Standard safety features include user-selectable **Safe-Start/Auto Re-Start** and **Last Setting Memory** along with various built-in protective functions such as Output Over-Voltage Protection (**OVP**), Output Under-Voltage Limit (**UVL**), Output Under-Voltage Protection (**UVP**), Fold-Back protection (**FOLD**) for CV or CC mode, Analog Output Over-Current Limit (**OCL**), Over-Temperature protection (**OTP**) and AC Input UV shutdown (**AC-FAIL**).

Local/Remote interfacing is common across the entire **GENESYS+™** product platform (1kW to 60kW) including local **Front Panel** control, remotely via the built-in **LAN (LXI 1.5)**, **USB (2.0)** or **RS-232/RS-485** Remote Digital interfaces or through the built-in **Isolated Analog (5V/10V)** Interface. Optional Remote Digital Interfaces include either the **IEEE (488.2)**, **Modbus-TCP** or **EtherCAT** Interface. Instrument software drivers are also available as well as application software that includes a *Waveform Creator* (to create, store/load and trigger waveform sequence profiles) and a *Virtual Control Panel GUI* (with Status Logger, Constant Power Limit simulator and Solar Array simulator).

The built-in **Isolated Analog Interface** provides the user with high accuracy Program/Monitor signals with *600V isolation* and new operating features such as *Control pins* (for activation of external devices for Output polarity reversal or load disconnect), *Trigger-In/Trigger-Out pins* (for synchronization) and *Enable Control* (with user-selectable polarity).

A new **Advanced Parallel** Primary/Follower system allows a multiple unit system to achieve dynamic response and ripple and noise performance comparable to that of a single **GENESYS+™** 7.5kW power supply. Up to twelve (12) units can be connected in parallel and are automatically configured by detection of the parallel data-link cable connections between units, with the Primary unit being the single point for programming, measurement, and status of system load current.

Other mechanical options include a **Blank Front Panel** and an **Air Filter Accessory Kit**. The *Blank Front Panel* is available for applications where the front panel display and controls are not required, and only remote Digital/Analog interfacing is being implemented. The *Air Filter Accessory Kit* is available for both standard and blank front panel models, has a removable snap-in filter (for easy maintenance) and prevents dust entry into the power supply.

The **GENESYS+™** 7.5kW Programmable DC Power Supply platform has Safety certifications to IEC/EN/UL/cUL 61010-1 (with CE and UKCA marking in accordance with the Low Voltage, EMC and RoHS Directives) and are compliant with IEC/EN61204-3, Class A for Conducted and Radiated EMI and EMC Immunity.

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More information on the **GENESYS+™** Advanced Programmable DC Power Supply Series can be found at:

- a) [GENESYS+™ Series | Products | TDK-Lambda Americas](#)
- b) [GENESYS+™ Rack DC Power Systems | Products | TDK-Lambda Americas](#)

Also available are the **Genesys™** General-Purpose Programmable DC Power Supply Series and the **SFL** Programmable DC Electronic Loads. Information for these products can be found at:

- a) [Genesys™ Technical Data | Products | TDK-Lambda Americas](#)
- b) [SFL Electronic Load | Products | TDK-Lambda Americas](#)

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## Main Applications

- Battery/Component Evaluation
- Solar Panel/Inverter Evaluation/Test
- Subsystem and Component Test/Burn-In
- Medical Treatment Systems
- Semiconductor Fabrication
- Rack-mount ATE Product Validation
- Laboratory Product/Material Research

## Key Data

	<b>G30-250</b>	<b>G60-125</b>	<b>G80-94</b>	<b>G200-37.5</b>	<b>G300-25</b>	<b>G1000-7.5</b>
<b>Voltage Rating</b>	30V	60V	80V	200V	300V	1000V
<b>Current Rating</b>	250A	125A	94A	37.5A	25A	7.5A
<b>Power Rating</b>	7500W	7500W	7520W	7500W	7500W	7500W
<b>AC Input Voltage</b>	Three-phase <b>208VAC</b> (170 ~ 265VAC) Wide-range three-phase <b>400VAC/480VAC</b> (342 ~ 528VAC)					
<b>AC Input Current</b>	25.5A (@ 200VAC), 13.5A (@ 380VAC)					
<b>Operating Modes</b>	<b>CV</b> (Constant Voltage), <b>CC</b> (Constant-Current), <b>CP</b> (Constant Power) Limit					
<b>Advanced Features</b>	Internal Resistance Programming, Constant-Power Limit, V/I Slew-Rate Control, Waveform Generator w/ Auto-Triggering, Pre-Load ON/OFF Control, FOLDback CV/CC, Watchdog Timer, Advanced Parallel Setup w/ Auto-Acknowledge, Enable/Disable w/ Polarity Select, Analog Over-Current Limit, Control Pins for Polarity Reversal/Load Disconnect, Analog Trigger-IN/Trigger-OUT					
<b>Options</b>	Blank Front Panel					
<b>Built-In Interfaces</b>	<b>LAN (LXI 1.5)</b> , <b>USB (2.0)</b> , <b>RS-232/RS-485</b> , <b>Isolated Analog (5V/10V)</b>					
<b>Optional Interfaces</b>	<b>IEEE (488.2)</b> , <b>EtherCAT</b> , <b>Modbus-TCP</b> , <b>Isolated Analog (4-20mA)</b>					
<b>Accessories</b>	Air Filter Kit					
<b>Size (WxHxD)</b>	16.65in. x 1.72in. x 19.15in. (423mm x 43.6mm x 486.5mm)					
<b>Weight</b>	18.7lbs (8.5kg)					
<b>Safety</b>	Meets IEC/EN/UL 61010-1; CSA22.2 No. 61010-1					
<b>EMC</b>	Meets IEC/EN61204-3 (Industrial environment)					
<b>Compliance</b>	CE Mark, UKCA Mark					
<b>Warranty</b>	5yrs					

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 2023, TDK posted total sales of USD 16.1 billion and employed about 103,000 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/](http://www.jp.lambda.tdk.com/en/)

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