

 Press Information

Power Supplies

TDK introduces programmable and scalable DC-DC power supplies for emerging DC-grid architectures

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TDK Corporation (TSE:6762) has launched the TDK-Lambda EDC series of programmable DC-DC power supplies, developed to support growing demand for DC-grid architectures as the use of renewable energy sources and battery storage increases. The compact, high-power series, which includes 1.5 kW and 3 kW models with constant-voltage (CV) and constant-current (CC) operation, will facilitate simpler DC-DC connections.

Many renewable energy sources generate power as DC. But conventional architectures often require repeated DC-to-AC-to-DC conversion, adding cost and complexity. The EDC series addresses these concerns by supporting simpler direct DC-to-DC connections. This streamlined capability reduces unnecessary conversion stages, enhancing integration with distributed power systems and DC-grid architectures.

For scalable system integration, up to three EDC units can be connected in series and up to ten units in parallel, allowing the EDC to adapt to a wide range of power requirements, enabling power capacity to be matched to the specific application.

Leader/follower functionality allows multiple units to be controlled as a single high-power system. RS-485 (Modbus RTU) communication can link multiple systems and other compatible products, helping reduce the number of controllers required. Through the Modbus RTU interface, engineers can also remotely monitor product status, operating and power-on hours, and alarm and fault histories, supporting predictive maintenance and faster fault identification. Together, these capabilities simplify the control, monitoring and maintenance of large multi-unit installations.

Programmable CV/CC control means voltage and current can be adjusted to suit different application requirements. This provides greater flexibility across DC-DC applications by allowing the output to be configured to meet the load's requirements.

Other EDC features include automatic ID assignment, which reduces manual configuration and enables faster, more convenient multi-unit setup. Meanwhile, analog programming and control via 1–5 V and 4–20 mA interfaces offer greater integration flexibility, allowing voltage and current to be controlled through conventional analog control systems.

The EDC series is packaged in a compact 270 × 150 × 61 mm (10.6 × 5.9 × 2.4 in) enclosure and uses conservatively rated electrolytic capacitor temperatures for long field life.

The new programmable DC-DC power supplies can be used in a broad range of applications, including hydrogen generators, high power battery chargers, switchgear for distribution boards in data centers, and

solid oxide fuel cell systems. These applications reflect the growing role of DC-DC power conversion in renewable energy, energy storage, distributed power systems, and emerging DC-grid architectures.

Main applications

- Hydrogen generators, high power battery chargers, switchgear for distribution boards in data centers, and solid oxide fuel cell systems.

Main features and benefits

- Fully programmable voltage and current (CV/CC) control
- RS-485 (Modbus RTU) communications with remote monitoring and diagnostics
- Scalable design with series and parallel capability
- Compact 270 x 150 x 61 mm footprint

Type		EDC
Input voltage range	Vdc	70 – 220 (1500 W models); 160 – 420 (3000 W models)
Output voltages	Vdc	60 or 130
Output power	W	1500 or 3000
Efficiency	%	91 (1500 W models); 93 (3000 W models)
Size (L x W x H)	mm	270 x 150 x 61
Safety certifications		IEC/EN/UL/CSA 62368-1, CE Mark and UKCA Mark

About TDK Corporation

TDK Corporation (TSE:6762) is a global technology company and innovation leader in the electronics industry, based in Tokyo, Japan. With the tagline “In Everything, Better” TDK aims to realize a better future across all aspects of life, industry, and society. For over 90 years, TDK has shaped the world from within; from the pioneering ferrite cores to cassette tapes that defined an era, to powering the digital age with advanced components, sensors, and batteries, leading the way towards a more sustainable future. United by TDK Venture Spirit, a start-up mentality built on visions, courage and mutual trust, TDK’s passionate team members around the globe pursue better—for ourselves, customers, partners, and the world. Today, the state-of-the-art technologies of TDK are in everything, from industrial applications, energy systems, electric vehicles, to smartphones and gaming, at the core of modern life. TDK’s comprehensive, innovative-driven portfolio includes cutting-edge passive components, sensors and sensor systems, power supplies, lithium-ion and solid-state batteries, magnetic heads, AI and enterprise software solutions, and more—featuring numerous market-leading products. These are marketed under the product brands TDK, InvenSense, Micronas, Tronics, TDK-Lambda, TDK SenseEI, and ATL. Positioning the AI ecosystem as a key strategic area, TDK leverages its global network across the automotive, information and communication technology, and industrial equipment sectors to expand its business in a wide range of fields. In fiscal 2026, TDK posted total sales of USD 16.6 billion and employed about 107,000 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/

Further information on the products can be found under <https://product.tdk.com/en/power/edc>

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