

Power Supplies

400 to 750W ruggedised buck DC-DC converters offer conduction cooling with a wide range of inputs and outputs

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TDK Corporation (TSE:6762) announces the introduction of the 400 to 750W rated RGB series of ruggedised non-isolated DC-DC converters from TDK-Lambda. Operating from input voltages of 9 to 18V, 18 to 32V or 18 to 60V, these buck step-down converters can deliver output voltages adjustable from 0.8 to 8V or 3.3 to 24V with output currents of up to 60A (depending on the power level). The series is designed to be used in harsh environment applications including medical, automated guided vehicles (AGV), industrial mobile robots (IMR), drones, commercial off-the-shelf (COTS), industrial, test, measurement, and battery-powered equipment.

Efficiencies of up to 98.5% allow the product to deliver high usable power in demanding thermal environments with case temperatures of -40°C to +115°C, while providing a longer battery life. With a 1/16th brick pinout and measuring 38.1 x 49.5 x 13.0mm (WxLxH), the converters are encapsulated to provide shock and vibration performance to MIL-STD-810G. The five-sided aluminium case reduces radiated EMI and enables conduction cooling to a cold-plate for fanless operation.

The basic feature models include an output voltage adjustment pin, negative logic remote on-off, remote sense, input under-voltage, over-current and thermal protection. An optional adjustable current limit is also available to reduce stress on the input source, converter, and load in the event of an overload.

All models carry the CE and UKCA marks for the Low Voltage and RoHS Directives and are designed to the IEC/UL/CSA/EN 62368-1 safety standards. Evaluation boards are available for quick and easy testing.

More information on the RGB models can be found at [RGB Series Datasheet \(tdk.com\)](https://tdk.com)

Main applications

- Medical, automated guided vehicles (AGV), Industrial Mobile Robots (IMR), drones, commercial off-the-shelf (COTS), industrial, test, measurement, and battery-powered equipment

Main features and benefits

- Up to 750W in a 1/16th brick pin-out
- High efficiency - Up to 98.5%
- Wide output adjustment from 0.8 up to 24V
- Wide input ranges
- Adjustable current limit
- 115°C maximum case temperature

Key data

Model		RGB
Input voltage ranges	Vdc	9 to 18, 18 to 32 or 18 to 60
Output voltages	Vdc	0.8 to 8, 3.3 to 18 or 3.3 to 24
Maximum output power	W	750
Efficiency	%	Up to 98.5
Isolation		Non-isolated
Size (W x L x H)	mm	38.1 x 49.5 x 13.0 (including mounting tabs)
Safety certification		Designed to the IEC/UL/CSA/EN 62368-1 standards

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 2024, TDK posted total sales of USD 14.6 billion and employed about 101,000 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/

Contacts for regional media

Region	Contact		Phone	Mail
Americas	Tom Tillman	TDK-Lambda Americas	+1 619-575-4400	tom.tillman@tdk.com
EMEA	Hannah Owen	TDK-Lambda UK	+44 (0)1271 856667	tlu.powersolutions@tdk.com
	Danielle Burness	Publitek	+44 (0)7581 024101	danielle.burness@publitek.com
Other Asia	BK Neo	TDK-Lambda Singapore Pte Ltd.	+65 6251 7211	tls.marketing@tdk.com



Greater China	Helen Van	TDK-Lambda (China) Electronics Co., Ltd.	+86 21 64850777 *209	helen.van@tdk.com
Japan	Mr. Daiki Ito	TDK Corporation	+813 6778-1055	TDK.PR@tdk.com