

## Power Supplies

### **300W 20A buck-boost DC-DC converter models are optimized for 24V input applications**

March, 2021

TDK Corporation (TSE 6762) announces the addition of 20A 300W rated models to the i7C non-isolated DC-DC converter series. These buck-boost board mount power modules have been optimized for 24V input with a range of 9 to 36Vdc and can be adjusted from 8 to 24V. The i7C topology enables a seamless transition from buck (voltage reduction) to boost (voltage increase) operation. The new models are ideal for generating additional high power outputs from 12 and 24V system voltages in medical, automated guided vehicles (AVG), drones, industrial, test, measurement and battery powered equipment.

Power losses are minimized with efficiencies up to 97%, allowing the product to operate and deliver high useable power in demanding thermal environments. Under light load conditions, the i7C's control techniques significantly reduce power dissipation. A 5mA input current draw is typical under zero load conditions and can be reduced to typically 0.25mA when the module is in standby mode using the output inhibit function. The low quiescent current allows battery powered equipment to remain functional longer during periods of non-operation.

The basic feature models include an output voltage adjustment pin, positive or negative logic remote on-off, positive remote sense, plus input under-voltage, over-current and thermal protection. The full-featured models are equipped with a power good signal, output current monitoring and the ability to synchronize the operating frequency to minimize system noise.

All the i7C2W converters measure 34mm x 36.8mm with a height of 14.7mm and follow the industry standard 1/16<sup>th</sup> brick pin-out. The i7C design reduces the number of external components, saving both cost and board space.

All models are certified to IEC/UL/CSA/EN 62368-1 and carry the CE mark for the Low Voltage and RoHS Directives.

More information on the 20A i7C2W models, including distributor inventory and evaluation boards, can be obtained from the TDK-Lambda Americas website at <https://www.us.lambda.tdk.com>.

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#### **Main applications**

- Medical, automated guided vehicles (AVG), drones, industrial, test, measurement and battery powered equipment

#### **Main features and benefits**

- Up to 300W in a 1/16<sup>th</sup> brick pin-out
- Up to 97% efficient with low off-load power consumption
- Wide 8 to 24V output adjustment
- Wide 9 to 36Vdc input range
- Low component count with minimal external components

- Low airflow with minimal derating requirements

## Key data

Model		i7C2W020A120V
Input voltage range	Vdc	9 to 36
Output voltage	Vdc	8 to 24
Maximum output current	A	20
Maximum output power	W	300
Efficiency	%	Up to 97
Optional features	-	Power good signal, frequency synchronization and current monitoring
Safety Certifications	-	IEC/UL/CSA/EN 62368-1. CE Marked to the RoHS and LV Directive
Size (W x H x L)	mm	34 x 36.8 x 14.7
Construction	-	Open frame

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## 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 2020, TDK posted total sales of USD 12.5 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/](http://www.jp.lambda.tdk.com/en/)

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## Contact for media

Region	Contact	Phone	Mail
Americas	Tom Tillman	TDK-Lambda Americas (619) 575 4400	<a href="mailto:tom.tillman@us.tdk-lambda.com">tom.tillman@us.tdk-lambda.com</a>

