

Power Supplies

300W buck-boost DC-DC converter series augmented with 5V to 28V 12.5A models

August, 2020

TDK Corporation (TSE 6762) announces the addition of 12.5A 300W rated models to the i7C non-isolated DC-DC converter series. With an input range of 9 to 53Vdc, the output can be adjusted from 5 to 28V. The i7C topology enables a seamless transition from buck (voltage reduction) to boost (voltage increase) operation. The series is ideal for generating additional high power outputs, from existing 12, 24, 36 or 48V system voltages, in medical, communications, industrial, test and measurement and battery powered equipment.

Efficiencies of up to 96% minimize power losses, 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. This can be reduced to typically 0.25mA when the remote on-off is utilized to place the unit in standby mode. 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 i7C converters measure 34mm x 36.8mm and follow the industry standard 1/16th brick pin-out. Three mechanical configurations are available - a low 12.2mm high open frame model, a baseplate construction for conduction cooling or with an integral heat sink for convection or forced air cooled environments. The design of the i7C reduces the number of external components, saving both cost and board space.

All models are certified IEC/UL/EN 62368-1, 60950-1 and carry the CE mark for the Low Voltage and RoHS Directives.

More information on the 12.5A i7C models, including distributor inventory, can be obtained from the TDK-Lambda Americas website at <https://www.us.lambda.tdk.com>.

Main applications

- Medical, communications, industrial, test and measurement and battery powered equipment

Main features and benefits

- Up to 300W in a 1/16th brick pin-out
- Up to 96% efficient with low off-load power consumption
- Wide 5 to 28V output adjustment
- Wide 9 to 53Vdc input range
- Low component count with minimal external components
- Low airflow with minimal derating requirements

Key data

Model		I7C4W012A050V
Input voltage range	Vdc	9 to 53
Output voltage	Vdc	5 to 28
Maximum output current	A	12.5
Maximum output power	W	300
Efficiency	%	Up to 96
Optional features	-	Power good signal, frequency synchronization and current monitoring
Safety Certifications	-	IEC/EN/UL 62368-1 and 60950-1. CE Marked to the LV Directive
Size (W x H x L)	mm	34 x 36.8 x 12.2 (open frame model)
Construction	-	Open frame, baseplate or integral finned heatsink

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/

Contact for media

Region	Contact	Phone	Mail
Americas	Tom Tillman	TDK-Lambda Americas (619) 575 4400	tom.tillman@us.tdk-lambda.com