

## Power Supplies

# Non-isolated buck-boost DC-DC converters deliver up to 200W with a wide 9.6 to 28V output adjustment range

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TDK Corporation (TSE:6762) announces the introduction of the TDK-Lambda brand 200W rated i1C series in the 1"x1" industry standard package size. These non-isolated, buck-boost DC-DC (step-up, step-down) converters operate from input voltages of either 9 to 36V or 18 to 75V. The i1C series offers output voltages adjustable from 9.6 to 28V with output currents of up to 10A.

The series is ideal for generating a wide range of high-power DC outputs from 12, 24, and 48V system voltages in medical, industrial, test, measurement, and battery-powered equipment such as Automated Guided Vehicles (AGVs), Industrial Mobile Robots (IMR), and drones. The i1C models can also replace existing isolated converters, providing a higher power migration path for applications requiring additional output power, as the isolation barrier is often provided by the AC-DC source.

The i1C has a remarkable efficiency of up to 98%, allowing the converters to deliver high usable power in demanding thermal environments with case temperatures of -40°C and up to +120°C, while providing a longer battery life. Dimensions and pin-out are compatible with the industry standard 1" x 1" footprint, measuring 26.42 x 26.42 x 10.2mm (W x L x H). The converters are encapsulated to provide enhanced shock and vibration performance and the five-sided aluminium case reduces radiated EMI for easier system compliance.

As standard, models include an output voltage adjustment pin, positive or negative logic remote on-off, input under-voltage, over-current, and thermal protection.

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 i1C series can be found at [i1C Series Datasheet \(tdk.com\)](https://www.tdk.com/i1C-Series-Datasheet)

### Main applications

Medical, automated guided vehicles (AGVs), Industrial Mobile Robots (IMR), autonomous mobile robot (AMR), drones, industrial, test, measurement, and battery-powered equipment

### Main features and benefits

- Up to 200W in the 1"x1" package size
- High efficiency - Up to 98%
- Wide output adjustment from 9.6 to 28V
- Wide input ranges
- -40°C to +120°C case temperature

### Key data

| Model                  |     | I1C2W010A120V and I1C4W010A120V                 |
|------------------------|-----|---|
| Input voltage ranges   | Vdc | 9 to 36 or 18 to 75                             |
| Output voltage range   | Vdc | 9.6 to 28                                       |
| Maximum output current | A   | 10  |
| Maximum output power   | W   | 200   |
| Efficiency             | %   | Up to 98  |
| Isolation              |     | Non-isolated                                    |
| Size (W x L x H)       | mm  | 26.42 x 26.42 x 10.2mm                          |
| 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/](http://www.jp.lambda.tdk.com/en/)

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