

Power Supplies

200W and 300W half brick DC-DC converters have a 43V to 160V input for rail and industrial applications

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TDK Corporation (TSE:6762) announces the introduction of the 200W and 300W rated TDK-Lambda CN-B110 series of half brick DC-DC converters. Capable of operating from a wide input voltage of 43 to 160Vdc the converters are compatible with 72Vdc or 110Vdc nominal railway systems. Applications include rolling stock, railway trackside equipment, robotics, AGVs and scientific research equipment.

These second-generation converters are available with 12V, 13.8V, 15V and 24V outputs. Using the trim function, they can be adjusted to using a resistor or an external voltage to compensate for voltage drops, or to accommodate non-standard system voltages. The standard models have non-latching (self-recovering) over current and overvoltage protection, with an option for latching with manual reset.

To meet demanding high voltage requirements for transients and 5,000m altitude, the CN-B110 has 11.8mm spacing between the primary input and baseplate for a 2,500Vac isolation voltage. Input to output isolation is 3,000Vac and output to ground 500Vac. With efficiencies of up to 91%, power losses are minimized allowing the products to operate at baseplate temperatures of -40°C to +100°C, with very minimal derating at high temperatures. Cooling is achieved using the optional heatsinks or to a cold plate via the module's aluminum baseplate.

Parallel operation using the current share function of up to 11 modules is possible to support redundant applications. The CN-B110 has a DC Good signal and remote on/off as standard, with an optional 12V 10mA auxiliary output (replaces the DC Good signal). Overall dimensions of the half brick converter are 12.7mm high, 61mm wide and 57.9mm in length.

All models carry the CE and UKCA marks for the Low Voltage and RoHS Directives and are certified to the IEC/UL/CSA/EN 62368-1 safety standards. In addition, the series meets the rolling stock IEC 61373 Category 1, Class B shock / vibration standards and are designed to meet EN 45545-2 (Fire protection on railway vehicles).

More information on the CN200B110 and CN300B110 series, including distributor inventory, can be obtained from the TDK-Lambda Americas website at <https://www.us.lambda.tdk.com>.

Main applications

- Railway rolling stock, trackside equipment, robotics, AGVs and scientific research.

Main features and benefits

- Wide 43 to 160Vdc input range
- Half brick industry package
- Certified to IEC/UL/CSA/EN 62368-1 safety standards, designed to meet EN45545-2
- Current share function
- Very minimal derating at high ambient temperatures

Key data

Model		CN200B110	CN300B110
Input voltage range	Vdc	43 to 160	
Output voltages	Vdc	12, 13.8, 15 and 24	
Maximum output power	W	201.6	300
Efficiency	%	91	90.5
Isolation	Vac	Input - baseplate 2,500, input - output 3,000, output - baseplate 500	
Size (L x W x H)	mm	61 x 57.9 x 12.7	
Safety certification		IEC/UL/CSA/EN 62368-1 (designed to meet EN 45545-2)	

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 2022, TDK posted total sales of USD 15.6 billion and employed about 117,000 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/

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