

Power Supplies

200W half brick DC-DC converters have a very wide 14V to 160V input for rail and industrial applications

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TDK Corporation (TSE:6762) announces the introduction of the 200W rated TDK-Lambda PYH200 series of half brick DC-DC converters. Capable of operating from an ultra-wide 12:1 input voltage of 14 to 160Vdc, the converters are compatible with 24V, 48V, 72V or 110Vdc nominal system voltages. Applications include railroad rolling stock and trackside equipment, robotics, power generation and scientific research equipment.

These converters are available with 12V, 15V, 24V or 48V nominal outputs. Using the trim function, they can be adjusted using a resistor or an external voltage to compensate for voltage drops, or to accommodate non-standard system voltages. The PYH200 models have latching overvoltage, non-latching (self-recovering) overcurrent and overtemperature protection with adjustable undervoltage control.

The hold-up time can be extended up to 30ms with the addition of an electrolytic capacitor connected to the BUS terminal. The PYH200 switching frequency can be synchronized to an external clock with other PYH200 modules to reduce system noise. Remote on/off is also included as standard. Overall dimensions of the half brick converter are 12.7mm high, 61mm wide and 57.9mm in length.

To meet demanding high voltage requirements for transients and 5,000m altitude, the power modules have an input to output isolation of 3,000Vac, 3,000Vac input to baseplate and 500Vac output to baseplate. With efficiencies of up to 90%, power losses are minimized allowing the products to operate at baseplate temperatures of -40°C to +100°C. Cooling is achieved using the optional heatsinks or to a cold plate via the module's aluminum baseplate.

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. With external components the PYH200 series has been tested to meet the EN 50155, EN 45545-2, EN 61373 and EN 50121-3-2 railroad standards.

More information on the PYH200 series, including distributor inventory, can be obtained from the TDK-Lambda Americas website at <https://www.us.lambda.tdk.com>.

Main applications

- Railroad rolling stock and trackside equipment, robotics, power generation and scientific research equipment.

Main features and benefits

- Wide 14 to 160Vdc input range

- Half brick industry package
- Tested to meet the EN 50155, EN 45545-2, EN 61373 and EN 50121-3-2 rail standards
- Frequency synchronization
- 3000Vac input to output and input to baseplate isolation

Key data

Model		PYH200
Input voltage range	Vdc	14 to 160
Output voltages	Vdc	12, 15, 24 and 48
Maximum output power	W	200
Efficiency	%	Up to 90
Isolation	Vac	Input - baseplate 3,000, 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 (Tested to meet EN 50155, EN 45545-2, EN 61373 and EN 50121-3-2)

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/

Contacts for regional media



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