

250-W DC-DC Converters For Extreme Industrial Environments

[ABSOPULSE Electronics](#)' PDC 250-HSA-P59 series is a recent addition to the company's line of fully encapsulated, convection-cooled dc-dc converters. The 250-W units in this series are entirely potted with a thermally conductive MIL-grade silicon rubber compound with a UL94V-0 flammability rating. Full encapsulation provides immunity to shock, vibration, moisture, dust, salt and other contaminants, as well as ensuring heat dissipation throughout the module. The converters are suitable for operation in extreme environments including transportation, heavy industry, mining, oil and gas, and power generation and distribution (see the figure).

Convection cooling is achieved by installing the unit on a heatsink assembly block with fins attached to the under-surface of the chassis. The heatsink assembly allows for mounting on uneven and thermally non-conductive surfaces such as brick walls, plastic and wood. The units are rated for operation over a -40°C to +70°C coldplate temperature range for full specification without derating. DIN-rail mounting clips are available.

The converters deliver a single regulated dc output of 12 V, 24 V, 36 V, 48 V, 72 V or custom voltage value. They operate from a 24-V, 48-V, 125-V or custom input voltage. Regulation is better than 1% from zero load to full load across all line and load conditions. Efficiency is 80% at full load.

Filtering on the input and output contributes to low output ripple and noise. The input meets EN55032 Class A with wide margins; Class B is available on request. The converters also comply with EN/UL60950-1 and equivalent UL and CSA international safety standards.

ABSOPULSE is an original equipment manufacturer (OEM) of an extensive range of industrial and railway quality power conversion solutions. All of its existing designs can also be modified to meet customer requirements. It also specializes in fully custom solutions. Contact the company at 613-836-3511 for further information on this and similar designs, and for pricing and delivery. Or see the [website](#) for further information.



Figure. A member of the PDC 250-HSA-P59 series, this fully encapsulated, industrial-quality, dc-dc converter uses field-proven technology to generate the required output power. It is a mature product with a track-record in numerous applications. The converter is entirely potted with a thermally conductive MIL-grade silicon rubber compound to provide immunity to shock, vibration and humidity. Encapsulation ensures heat dissipation throughout the module. Convection cooling is achieved by installing the unit on a heatsink assembly block which is specifically designed for the unit.