High-Voltage Water Heater

Electrical and hybrid vehicles do not generate sufficient heat from the motors which can be utilized to heat the cabin interior. DBK has developed an efficient water heating system that is capable of producing up to 8 kW of heat operating at 500V. This enables the purely electrical heating of the vehicle interior.

Heater electronics can be operated via PWM signal or a standard LIN BUS system.

With HV water heaters, we use tubular heating element technology developed specifically for the automotive industry; an industrial application with many years of tried-and-tested performance and durability.

Tubular heating elements bring a number of advantages over PTC heating elements, including a higher operating voltage range, a low initial current draw upon activation, and a high heating output which heats water close to boiling point in no time.

The defined resistance temperature dependence of the heating element permits temperature control.

DBK high voltage water heaters are equipped with intelligent electronics and onboard redundant safety features for efficient and trouble-free operation. Operating parameters are continuously monitored for a fail-safe operation.

DBK is a leader in providing thermal solutions for vehicle batteries in the low and high voltage range. Due to interlinked development DBK supplies complete systems with integrated power electronics.

Drawing on its many years of experience from industrial applications, DBK fashions cutting edge solutions for the automotive sector.

**Product Features**

- Applications for electric, hybrid or fuel-cell vehicles, battery heating or discharge resistor
- Light weight < 2.0 kg
- Direct heating of the fluids
- Quick heating of the interior
- Quick de-frosting of the front windshield
- Boost operation possible

**Typical Technical Characteristics**

- Operating HV Voltage Range: 180V - 430V, nominal 280V
- Operating LV Voltage Range: 9V - 18V, nominal 12V
- Flow Rate: min. 270l/h, max. 820l/h
- Max. Current: 21A
- Ambient Temperature Range: -40°C - 120°C

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