

Germany's ELDIS Ehmki & Schmid OHG, active since 1974 as distributor of passive electronic components from many of the world's leading manufacturers, has added yet another jewel to its product lineup. Working closely with UK-based Hipas Ltd, ELDIS will market and distribute an exciting new lineup of Liquid-cooled high-power brake resistors for automotive applications involving vehicle powered by fuel cell and hybrid technologies.

New Liquid-Cooled Brake Resistors for Fuel Cell and Hybrid Vehicles

According to ELDIS' Gerhard Pahlke, the Hipas LCHP-series represents an entirely new technology with respect to liquid cooled, high-power resistors. The range of braking resistors has been designed specifically for automotive vehicles powered by fuel cell and hybrid power plants. Size and weight are major considerations in such vehicles. By using advanced construction techniques and new lightweight

ing comfortably within the weight tolerances of fuel cell and hybrid vehicles.

Depending on the electronic controller and software, this new range of resistors can fulfil several functions. The most basic is that of braking the vehicle, which occurs when the controller connects the LCHP across the motor when it is operating in generating mode. Enhanced control features also allow the

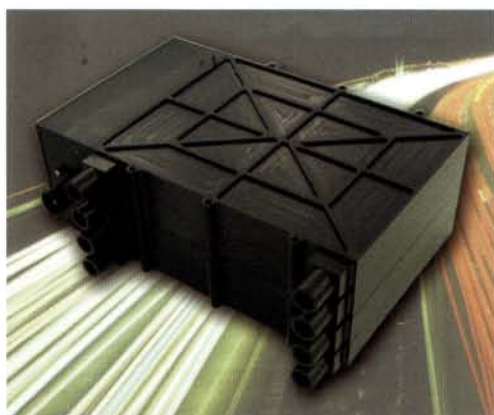
resistor converts power supplied from the control unit into heat, which is then transferred to the liquid coolant. This generated heat can be used in several ways, the simplest being to supply heat to the passenger compartment, either by channelling it directly to the heater or indirectly to the vehicle's radiator. A more appropriate use for the coolant and the generated heat is that of maintaining the fuel cell at its optimum operating temperature. This obviates the need to sustain the temperature within the fuel cell by the generation of electrical power.

In other uses, the LCHP resistor's coolant heat can be used during vehicle start-up to assist the fuel cell in quickly achieving the proper operating temperature. Moreover, in geographical locations where winter temperatures can be extremely low, the LCHP resistor can be connected through its electronic control unit to the local power mains. It can then generate the minimum temperatures necessary for the comfort of a vehicle's occupants and proper fuel cell function.

According to Gerhard Pahlke, ELDIS can initially supply the LCHP-series in four versions with power ratings of

35 kW, 70 kW, 100 kW and 150 kW. The resistor enclosure, designed in thermal plastic, is protected to IP65 and weighs only 6,0 kg - 13,5 kg. The plastic design eliminates problems with capacitance often encountered in other devices with metal assemblies. Rounding out the list of technical highlights are a voltage range up to 750V (Inverter / Chopper), a test voltage > 2,5 kV, and resistance > 5 MO. LCHP resistors can be used at an ambient temperature range from -40 °C to + 60 °C. The maximum temperature of the cooling liquid is + 85 °C and the pressure < 1,5 bar.

Readers interested in learning more about the HIPAS LCHP-series brake resistors are invited to contact Germany's ELDIS Ehmki & Schmid OHG or to visit a new website launched specifically to highlight the exciting opportunities associated with this new device. More information is available by visiting www.hipas.net. ■



HIPAS LCHP-series brake resistor

materials, UK-based Hipas Ltd. has successfully reduced both the size and weight of its braking resistors. Pahlke says weight reduction is 50% or more when compared to conventional metal construction. The result: LCHP-series fit comfortably in the motor compartment while remain-

LCHP Adding functionality to the electronic control software allows it to control the braking of the vehicle in such a way that a vehicle achieves and holds a pre-set speed when travelling downhill.

Other uses stem from the fact that the LCHP braking