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DEVICE FOR IMPROVING THE CURRENT OUTPUT OF A CHARGEABLE BATTERY AT LOW OUTSIDE TEMPERATURES

Braun Dieter Berlin, GERMANY

PCT No. PCT/EP92/02930 Sec. 371 Date Jun. 21, 1994 Sec. 102(e) Date Jun. 21, 1994 PCT Filed Dec. 17, 1992 PCT Pub. No. WO93/13568 PCT Pub. Date Jul. 8, 1993. A battery heating device includes a temperature sensor and at least one heating element in a liquid and acid-proof arrangement inside the battery. The heating element is a power transistor secured to a cooling plate which is powered by the battery, the emitter of the power transistor being powered by a temperature control circuit when the battery temperature falls below a predetermined reference temperature and the battery voltage is higher than a lower threshold and lower than a higher threshold. A trigger circuit responds to a rise in battery voltage after the current in a load having a high current consumption is switched off. The trigger circuit actuates a timer circuit which conductively controls the power transistor for a set time if the battery voltage is under or at the lower threshold

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METHODS FOR EXTENDING THE CYCLE LIFE OF SOLID, SECONDARY ELECTROLYTIC CELLS

Barker Jeremy San Jose, CA, UNITED STATES

Disclosed are methods for extending the cycle life of solid, secondary electrolytic cells employing a solid electrolyte. Also disclosed are solid electrolytes comprising from greater than 80 to about 92 weight percent of electrolytic solvents which, when employed in solid, secondary electrolytic cells extend the cycle life of the cells as compared to solid, secondary electrolytic cells employing solid electrolytes having less solvent.

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SOLID ELECTROLYTES CONTAINING LIN(SO2CF3)2 AND A TRIGLYME-CARBONATE SOLVENT, AND ELECTROCHEMICAL CELLS PRODUCED THEREFROM

Golovin Milton N Owings Mills, MD, UNITED STATES

This invention is directed to solid electrolytes containing lithium bis(trifluoromethane sulfonyl)imide and a solvent and, in particular, a solvent comprising a mixture of an organic carbonate and triglyme as well as electrolytic cells prepared from such solid electrolytes.