

DC power source, the voltage sensor including an analog reference and a chassis ground. A differential amplifier is coupled to the voltage sensor and detects variations in the analog reference and the chassis ground. A voltage comparator unit determines whether the variations detected in the differential amplifier is above a predetermined threshold value. A built-in test circuit tests whether the fault detection circuit is operating correctly.

5482793

### **ASSEMBLY HAVING IMPROVED THERMAL SENSING CAPABILITY**

Burns Arthur G; Fernandez Jose M; Kreisinger Robert D Plantation, FL, UNITED STATES assigned to Motorola Inc

A battery assembly includes first and second battery housings, a plurality of battery cells and a flexible circuit having a thermal sensing surface which is located in thermal proximity to battery cells. The thermal sensing surface is in thermal proximity to the plurality of battery cells providing for improved thermal sensing of battery assembly.

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### **SINGLE POINT BATTERY WATERING SYSTEM WITH INLET MOUNTING BRACKET**

Mead Dennis; Ackroyd Edward C; Gemmell Thomas J Keene, NH, 03431, UNITED STATES

A single point watering system for a battery having a plurality of cells is provided with a bracket secured to an end wall of a battery casing in overlying spaced relation to an upper surface of at least one cell of the battery. A clamp is provided for securing an inlet fitting on the filler tube of the single point watering system to the underside of the bracket for securely positioning the inlet fitting in a protected, readily accessible location for quick connection and disconnection with a water supply system.

5483068

### **USE OF IR (THERMAL) IMAGING FOR DETERMINING CELL DIAGNOSTICS**

Moulton Russell D; Chaloner-Gill Benjami San Jose, CA, 95123, UNITED STATES

In a new method, a defective electrochemical cell is detected by non-invasive means before assembly into a battery comprising multiple cells. The method detects faulty cells by sensing and detecting variations in the intensity level of infrared radiation emitted from an exterior surface of the cell or battery. The scanning and detection, preferably, is conducted by sensing infrared energy in a range of about 2 to about 12 $\mu$  (microns) emitted from the major surface of the cell or battery. The variations are recorded as a function of geometric variables indicative of the geographic position of the variations.

5483144

### **PASSIVE BATTERY CHARGING SYSTEM**

Marek Albert Grand Prairie, TX, 75051, UNITED STATES

A battery charger for simultaneously slow charging and thereafter maintaining a charge in a plurality of plate-type batteries includes a first transformer connected through a circuit loop to a first battery wherein the circuit loop includes a rectifier, and a current limiter and visual indicator of the charge level of the battery. A second transformer is connected through another circuit loop to one battery and through a third circuit loop to a second battery. The circuit loop of the first transformer may be connected to a first battery with one of the circuit loops of the second transformer being connected to a second battery connected in series to the first battery thus allowing the two loops to remain isolated from each other and allow for charging of the series connected batteries without removal of the series connection. In a second embodiment of the invention, a switch is connected in the loop to bypass the current limiter to allow a fast charge condition. A small indicator light is connected to the switch to indicate a fast charge condition. Thus, the charger may be switched from a slow passive charge condition to a fast charge condition, and back to a slow charge condition.