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(54) **METHOD AND APPARATUS FOR CONTROLLING A DC MOTOR BY COUNTING CURRENT PULSES**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(57) **ABSTRACT**

A system includes a motor for producing motion when current is supplied to the motor and a motor controller coupled to the motor for receiving a motor current signal indicative of the current supplied to the motor. The motor controller has an analog-to-digital converter for converting the motor current signal to a sampled motor current signal. The motor controller is operable to detect pulses in the sampled motor current signal, count the detected pulses to generate a first pulse count, and determine a run parameter for the motor based on the first pulse count. A method for controlling a motor includes counting a first plurality of pulses in a motor current signal produced while the motor is activated to generate a first pulse count. A second plurality of pulses is counted in the motor current signal produced while the motor is deactivated to generate a second pulse count. A run parameter for the motor is determined based on the first and second pulse counts.

35 Claims, 13 Drawing Sheets