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(54) **TEMPERATURE COMPENSATED LINEAR ACTUATOR AND ENCODER**

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(58) **Field of Classification Search**

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See application file for complete search history.

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(57) **ABSTRACT**

A linear actuator includes a casing that contains a moveable shaft moved by a motor in response to a drive signal and coupled to an encoder that determines an actual instantaneous position of the shaft and forms part of a control loop that adjusts the drive signal so as to ensure accurate positioning of the shaft. A temperature sensor mounted on the shaft produces a temperature signal indicative of instantaneously measured temperature, and a temperature compensator responsive to the measured temperature for generating a negative or positive offset for correcting the drive signal so as to move the shaft to a position that is corrected for instantaneous expansion or contraction of the shaft owing to departures of the shaft's actual temperature from a known baseline temperature.

**14 Claims, 7 Drawing Sheets**

