

ABSTRACT

ABSOLUTE DIGITAL POSITION ENCODER

A method and apparatus to convert absolute angular or linear position to digital information utilizes a single track. Multiple sensors are placed at essentially equal intervals along a track, especially a single track. The output from the group of sensors is converted to natural binary format by combinatorial logic. The sensors may be of different types, for example maybe mechanical contacts, optical, magnetic/inductive, or capacitive transducers, and may distinguish two or more levels each. Such an encoder can be used as a potentiometer, multiposition switch, shaft encoder, or as length measurement device. The code is of the Gray-code kind, in other words adjacent positional readings have a Hamming distance of one.

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