(54) Title: HIGH RESOLUTION POSITION SENSOR

(57) Abstract: A high-resolution position sensor device for use in precise positioning of servomechanisms, by providing increased resolution using of an encoder mounted on the shaft of a motor, which produces transition pulses through a light-sensitive arrangement using a photodestructor. Each time the pulse makes a transition because the groove of the encoder wheel has passed, a reset signal is produced which resets to zero the number of clock pulses which have been measured for that interval between the transition pulses. The transition pulses and the time between them changes with changes in motor speed, while the system clock pulse rate remains fixed. The invention provides a more accurate position sensor, which operates by generating more transition pulses than the encoder itself actually generates. If the encoder produces transition pulses at a given resolution, the sensor device produces output pulses having a higher resolution. The time interval between two high-resolution pulses is smaller than that between two transition pulses, because of the higher counting rate. This provides higher resolution of the motor position information, and better position control can be achieved with smaller errors.
Published:

-- with international search report
-- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
**INVENTION SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

**IPC 7 G05B 19/401**

According to International Patent Classification (IPC) or to both national classification and IPC.

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

**IPC 7 G05B**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database consulted during the international search (name of database and, where practical, search terms used)

EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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**Date of the actual completion of the international search:**

1 March 2002

**Date of mailing of the international search report:**

15/03/2002

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