



DATA SHEET

Tape Inductosyn Measuring System

General

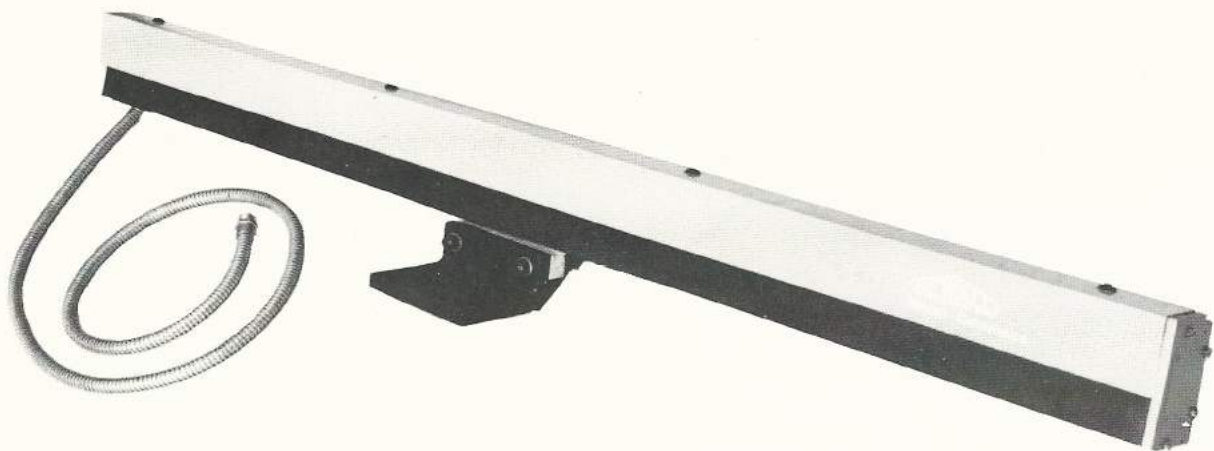
The tape inductosyn system was specifically developed for machine tool purposes and has been successfully applied to many installations.

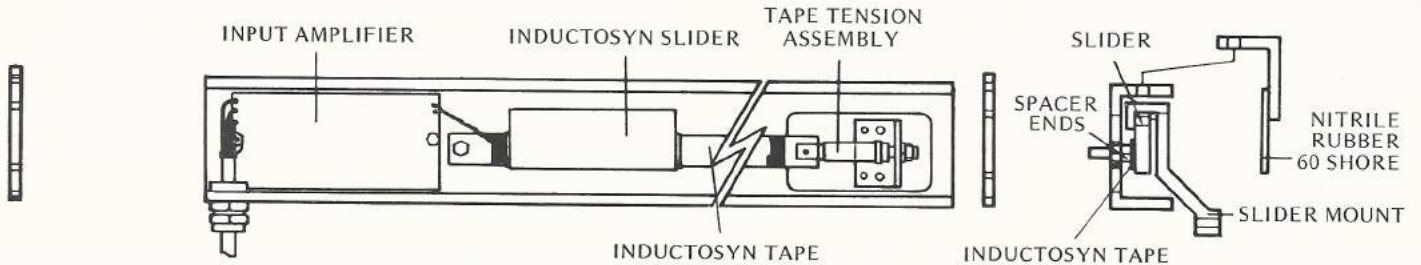
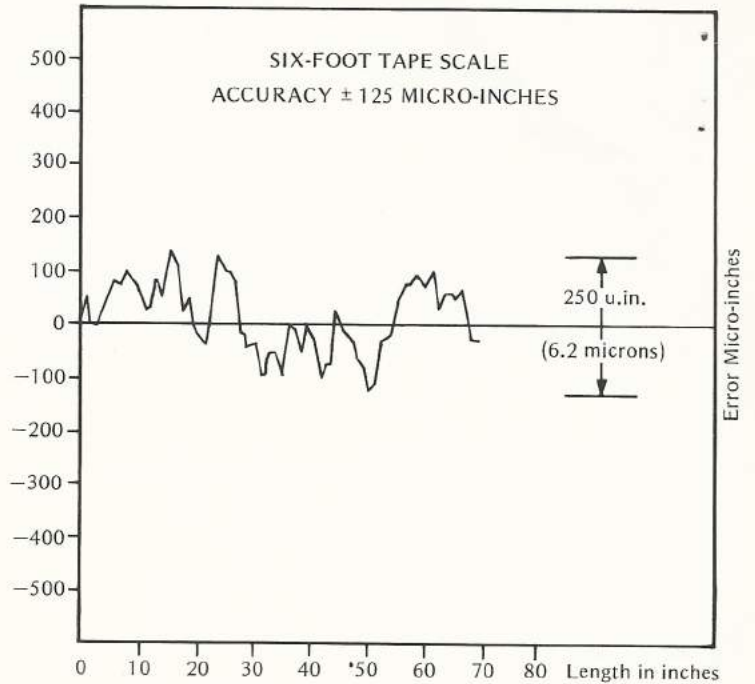
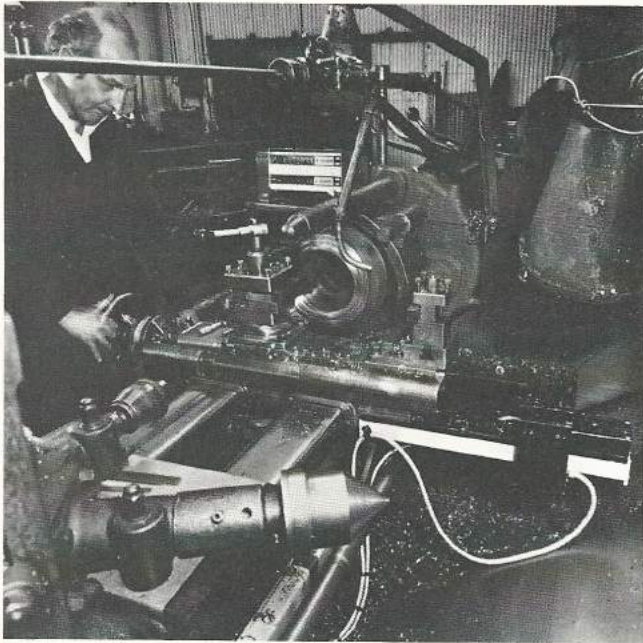
The measuring element consists of a tensioned steel tape, about 15mm. wide. On one surface is an etched copper pattern, with a repetitive pitch of 5.08mm. The reading head has a dovetail slot in which the tape is supported, the inner face of the dovetail has a number of reader elements which simultaneously read the tape over 100mm. of track. It is the averaging effect of the long reading face which generates the high accuracy typical of this system.

The tape is inherently robust and unlikely to be affected by dirt or oil, although the unit is fully enclosed by a protective shroud. There are no optical scales to be kept clean or any elements subject to regular replacement, such as lamps.

Operation

In operation the tape behaves similarly to a linear synchro transformer, giving a sinusoidal output where one cycle is equal to one rotation for each pitch interval. The electronic digital display cabinet interpolates the sine wave and converts it to a digital form, which is then counted by a conventional decade system.





Installation

The tape measuring element is mounted directly to the machine by means of mounting blocks at each end. A spring barrel with preset tension is provided to maintain the tape at a predetermined strain. The cover assembly is not attached to the measuring element at any point, thus accident damage from a dropped heavy component say, will not directly affect the accuracy of the system. There are no lamps or other finite life components employed with inductosyn systems, thus long service without attention is easily attained. Accuracy of measurement is ensured because the steel tape is pre-calibrated. No adjustments are made on site to achieve high accuracy.

Accuracy

The accuracy of the tape Inductosyn is guaranteed to be within plus/minus two ten thousandths of an inch (.0002") for the first foot, and plus/minus one ten thousandth of an inch (.0001") for each additional foot of length.

Resolution and Indication

Inductosyn measuring systems can be supplied for .0001" and .002mm. or .0005" and .005mm.

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