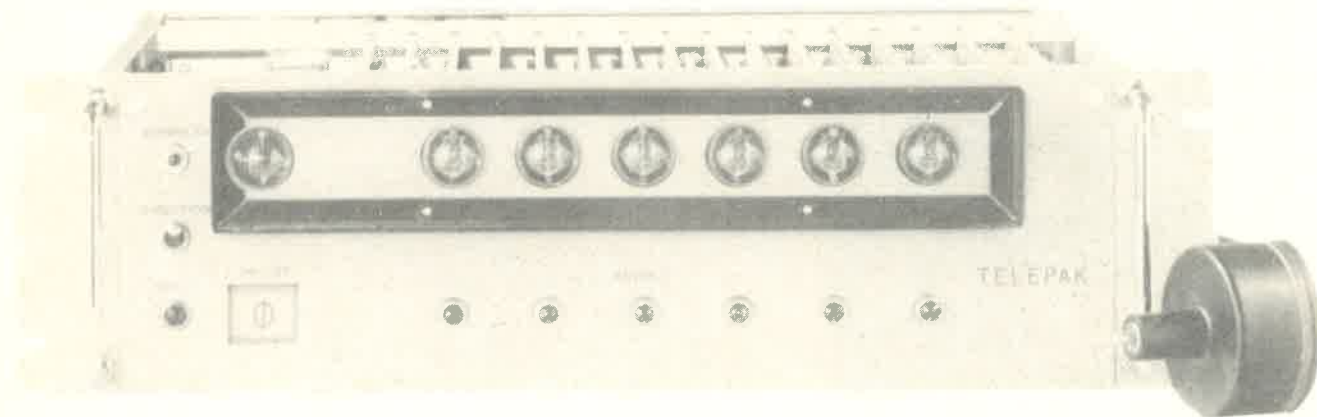


BROOMALL INDUSTRIES

DIGITIZING SYSTEMS

Model 193 G/15A



DESCRIPTION

The 15A MAGNETIC READ HEAD is a precise, rugged, shaft digitizing angle pulse generator designed to automatically convert lead screw or shaft position into a digital form.

Adaptable to a variety of applications such as machine tool lead screw digitizing, digitizing of crosswire or comparator drives, mechanical control system shaft position sensing, or any requirement for precise measurement of shaft rotation, the 15A Magnetic Read Head is highly reliable and is completely passive in function — having no brushes, contacts, lamps, or active elements.

The rotating element is a simple, low inertia disc mounted in precision ball bearings and features extremely low shaft loading with indefinitely long life, providing high resolution (up to 2000 counts per revolution) without gearing when used with the Telecordex or Telepak. Rugged housing and design simplicity provides use with virtually all machine tool applications. Generated pulses are inductively coupled to the output with pulse amplitude independent of rotational velocity from zero to maximum rpm.

The 193G TELEPAK is a bi-directional counter/accumulator and provides excitation for the 15A Magnetic Read Head with storage accumulation of up to $\pm 999,999$ counts in digital form. The 193G Telepak offers a resolution of 500, 1000, or 2000 counts per revolution with \pm six decimal digits counting/accumulating in excess of 50,000 counts per second. Directional sensing and bi-directional counting enables the system to follow both clockwise and counter-clockwise motion of the 15A Magnetic Read Head.

Digital position conversion is displayed visually by on-line (Nixie) readouts and is stored in a solid-state load driving memory for electrical readout. When readout is desired, the last digital entry is locked in the memory and may be applied to a variety of readout recorders without intermediate amplification.

Direct drive to a summary punch or paralleled input printer is characteristic or, by scanning, output may be applied to an electric typewriter, tape perforator, or keypunch.

SPECIFICATIONS

CIRCUITRY:	Completely solid state — no vacuum tubes or light-sensitive devices
RESOLUTION:	500, 1000 or 2000 counts/revolution
ACCURACY:	$\pm 1/2$ count
DIGITIZING RATE:	In excess of 50,000 pulses/second i.e. 1500 rpm, 3,000 rpm, or 6,000 rpm depending upon resolution
PULSE GENERATOR TORQUE:	Instrument bearing friction only
READING HEAD ROTOR INERTIA:	0.03 lb. in. ²
COUNT AND STORAGE CAPACITY:	$\pm 99,999$ (5 decimal digits standard) $\pm 999,999$ (6 decimal digits optional)
SYSTEM WEIGHTS:	15A Head — 1 pound approx. 193G Telepak — 25 pounds approx.
DIMENSIONS:	15A Head — 2 3/4" in diameter by 4 1/2" long 193G Telepak — 20" wide, 23" deep, 5" high
POWER INPUT REQUIREMENTS:	115v a c ± 10 volts 60 cps ± 10 cps 40 watts maximum

