AVTRON MANUFACTURING, INC.
7900 E. PLEASANT VALLEY RD. • INDEPENDENCE, OH 44131 • (216) 642-1230

MODEL
K653
BULLETIN 274

MILL DUTY SPEED METER

- EXTRA LARGE BRIGHT DISPLAY
- AUTOMATIC CALIBRATION
- SERIAL LINK FOR COMPUTER INTERFACE
- RUGGEDIZED FOR MILL DUTY
- ELIMINATES TRANSDUCER COUPLINGS AND BEARINGS

APPLICATION

The Avtron Model K653 is designed for measurement of a single process speed in actual process units such as FPM, MPM or YPM. The unit accepts either frequency inputs from a rotary pulse generator or input from Avtron's M185 Unipulser ™, a proprietary device which eliminates couplings and bearings, and can cut transducer installation cost in half.

FEATURES

The K653 includes large 0.8" amber displays for better visibility. A serial link permits interface to computers and printers. An automatic calibration mode eliminates the need to compute formulas from machine data. Finally, the K653 can be completely set up by using five keys on the front panel.

RELIABILITY

The K653 is designed for reliable functioning in mill environments. In addition to having a sealed front panel, the circuit board is conformally coated to ward off corrosion. Each K653 is operated at 140°F for 100 hours before shipment. Inputs are differential for noise rejection and terminal blocks are on 3/8" centers.

ACCURACY

The K653 can be used with input devices producing anywhere from 1Hz to 10,000Hz. Unlike older devices, the K653 produces ±0.01% accuracy within this range, with an update time of 1.0 second. It achieves this accuracy/update time performance by not only counting during a precise interval, but by taking into account the time to the next pulse as well.

SPECIFICATIONS

OPERATING POWER	115 VAC, 50/60 Hz, 0.25 Amp Max.
OPERATING TEMPERATURE	32-140°F (0-60°C)
OPERATING HUMIDITY	5-95% rh
SIGNAL INPUTS	The tach signal input is isolated from ground and transformer coupled, and is designed to work with both reluctance and zero-speed tach signals.
OPERATOR DISPLAY	6-digit, 0.8 inch memory display, with seven-segment amber characters.
CALIBRATION	(1) Compute and enter a calibration number, OR (2) Enter machine data (ROLL diameter, tach PPR, gear ratio), OR (3) Simply enter the current speed as measured by a separate instrument. All calibration data is entered through a 5-key keyboard with range and resolution of 0.00001 to 999999.
COUNT TIME	Selection of 0.25, 0.5, 1.0, 2.0, 4.0, or 8.0 seconds.
SERIAL LINK	Three modes of RS422 link. Mode 0: Serial Link disabled. Mode 1: Serial Link enabled (passive mode)-sends speed down link when a request is received over link. Mode 2: Serial Link enabled (active mode)-sends speed down link (1) when a request is received over link or (2) after every count time. Baud rate - Keyboard selectable, 150, 300, 600, 1200, 2400, 4800, 9600, or 19,200 Baud. Parity - Keyboard selectable, even, odd, none, mark, or space.
LOCK FEATURE	Keyboard functions can be locked out by connecting a jumper on rear terminal block.
INSTALLATION	All connections are on one row of 14 terminals on a block with 3/8 inch centers. All units are heat tested at 140°F for 100 hours to ensure reliable operation. Potentially weak components are therefore eliminated prior to shipment.
TACH SUPPLY	A +12 Volt, 250mA tach supply is available on rear terminal block.

Specifications subject to change without notice

INPUT TRANSDUCERS

The K653 uses a proprietary counting technique which eliminates the ±1 count error of "digital" techniques and allows an accuracy of ±0.01% at any pulse rate from 1 Hz to 10,000 Hz. It can be used with Avtron Rotary Pulse Generators or Avtron's M185 Unipulser™.

The M185 eliminates machining and aligning problems, as well as couplings, bearings, and timing drives. The unit includes a magnetic target held by a hose clamp, which can be broken off in segments to facilitate tightening onto any shaft from 2" to 9" diameter in seconds. The only tool needed is a screwdriver. After that, the detector head assembly is installed in proximity to the target path, with a ± 1/16 inch error tolerance.

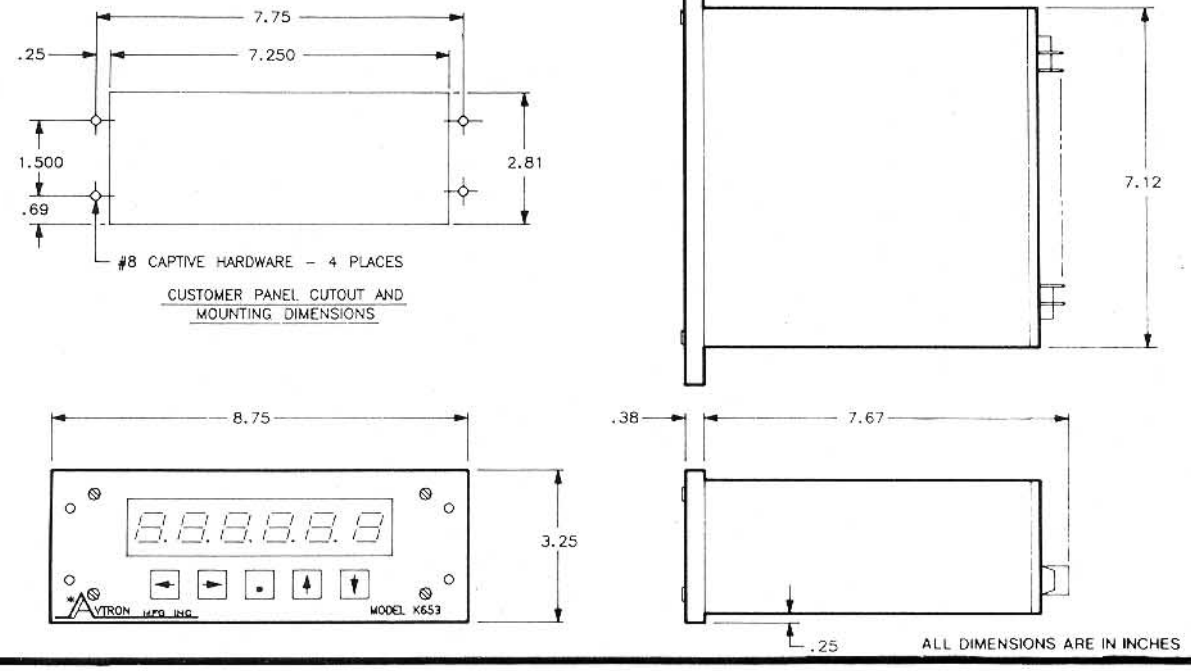
On line shaft machines, the total installed cost of the monitoring system can easily be halved. On a very few slow machines, the shaft may not rotate fast enough to produce 1 Hz (requiring 60 RPM). In such cases, the count time can be lengthened.

NOTE TO AVTRON K652 USERS

The K653 retains the same panel dimensions as the K652 but is 0.2" deeper.

DIMENSIONS

Optional NEMA Enclosure:
9.62" Wide x 4.06" High x 10.12" Deep



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