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# Encoder Instructions

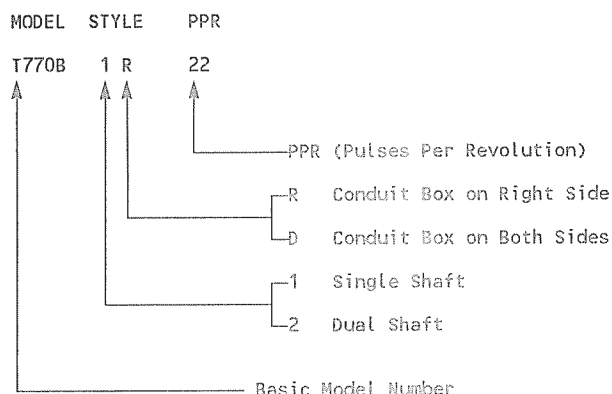
## T770B

**INACTIVE DESIGN**  
 Contact Help Desk

### Description

The Model T770B Pulse Generator is a zero-speed rotary transducer; that is, it can operate effectively down to zero RPM. The T770B generates a specific number of pulses for each rotation of its shaft. When the T770B is coupled to a machine, its output is directly proportional to process travel (pulse count). The output signal is generated by a large nonbreakable disc rotating between a non-optical and non-magnetic receptor. A rugged cast aluminum housing, a steel shaft with heavy-duty sealed bearings provide mechanical ruggedness required for industrial applications. The T770B is designed for use with digital instruments such as Avtron's K934 Digital Length Indicator.

Various T770B options and how they are shown in the T770B part number are shown below:



### CAUTION

The T770B is often used for length measurement systems, where any failure is important. While the T770B is designed for continuous mill operation, it is important to follow proper procedures with this unit.

DO NOT force or drive a coupling onto the shaft. This can damage bearings, so that a failure will happen at a later time.

REPAIR of defective units requires returning the unit to the factory, where there is special test equipment. Turn-around time is minimal, and charges are nominal for out-of-warranty units.

DO NOT install T770Bs (or any other rotating equipment) where liquids will be sprayed or hosed onto them. If necessary, provide a shield.

DO NOT connect grounded oscilloscopes, K761, or any grounded instrument to T770B output.

DO NOT connect oscilloscope or any instrument common to any pulse generator connection other than common (Blk wire or pin A).

### Specifications

Operating Power (each pickup)	12 to 15 VDC at approx. 30 ma.
Output Signal	Connections by "MS" connector
Pulses per revolution	1 thru 22
Wave Shape	Square Wave
Output Level	HIGH = Supply voltage minus 1 volt 10 ma max. source LOW = 1 volt maximum 10 ma sink
Output Protection	Output is short circuit protected to common
Frequency	0 to 1100 Hz max. (22 ppr) at 3000 rpm
Speed Range	0 to 3000 rpm (22 ppr max.)
Operating Temperature	32° to 160° F ambient
Weight	8.5 lbs. (Style 2D)
Mechanical	
Starting Torque	2.2 oz. - in. (typ.)
Shaft Inertia	0.1 oz. - in. - sec <sup>2</sup>
Acceleration (max.)	5,000 rpm/sec.
Coupling Recommended	Zero Backlash, Thomas DBZ or equivalent.

Features subject to change without notice.  
 Avtron standard warranty applies.

## INSTALLATION

The pulse generator must be driven by a positive drive rather than a friction drive. The following means of coupling are acceptable when properly installed: Direct Coupling, Timing Belt/Pulleys, Chain/Sprockets.

If a direct drive is used, use a flexible coupling and align the shafts as accurately as possible. (Misalignment should not exceed .010 inches). The pulse generator should not be subjected to any axial thrust. Overhung loads should also be minimized. Installations using timing belts/pulleys should have just enough belt tension to eliminate belt sag. Excessive tension will shorten belt and bearing service life.

## CAUTION

Do not force or drive coupling member onto the shaft, or damage to the bearings, pickup, or the rotor disc will result. Provide clearance between shaft end of T770B and the coupled driving shaft to allow for thermal expansion and end play.

For more details and special considerations in specifying and installing drive components, refer to separate installation instructions, Avtron Rotary Pulse Generators.

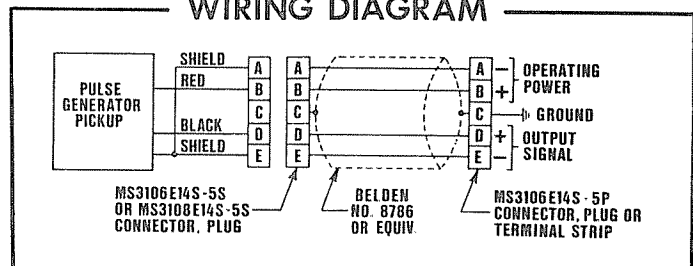
## WIRING

Fabricate the cable into the connector plug as follows:

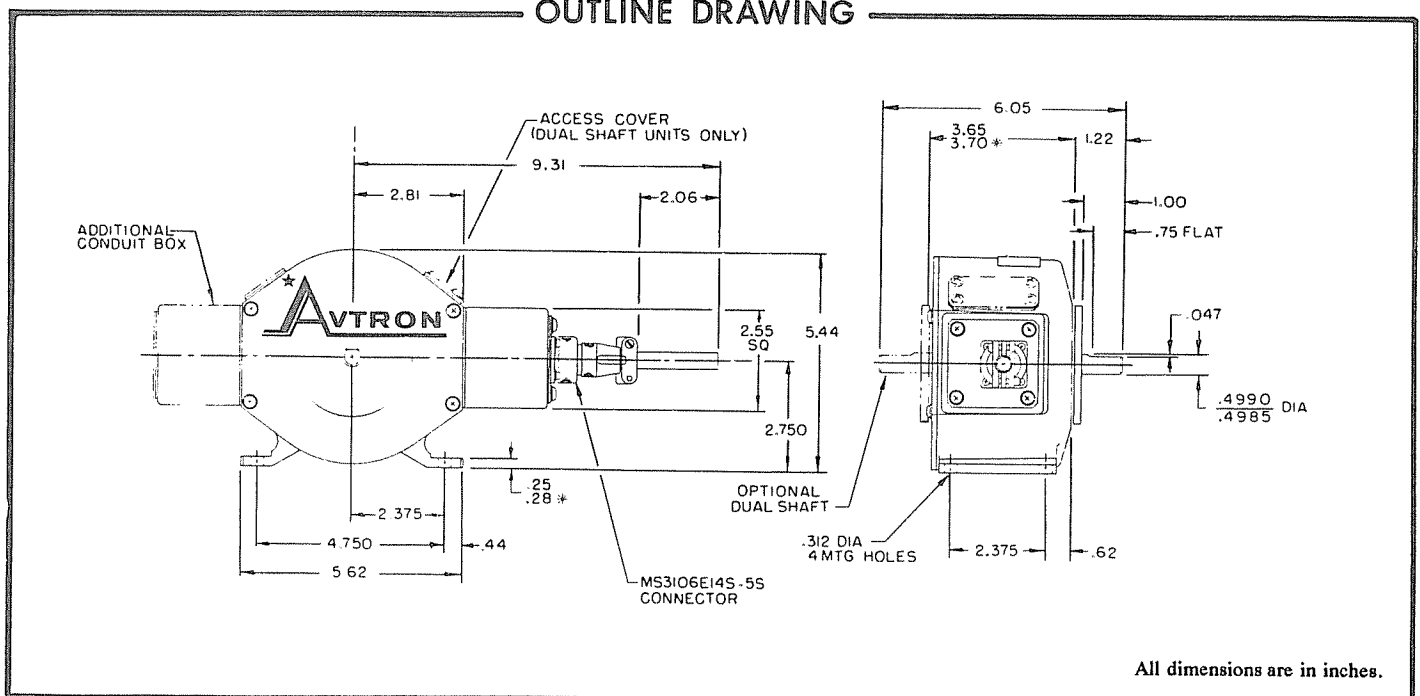
1. Unscrew endbell from connector plug.
2. Loosen two screws on cable clamp.

3. Feed cable through bushing, cable clamp, and endbell.
4. Strip outside insulation of cable (Approx. 1.00").
5. Cut back and insulate shield with tape or sleeving. To avoid shorting of a shield to another terminal or wire.
6. Strip the insulation from the wire so that after soldering, the insulation will be as close as possible to the solder joint (terminal) but not be integrated into the solder joint. In no case should the insulation of the wire be stripped back more than 1/8 inch from the connection.
7. Solder the leads into the connector using only rosin core solder (60% tin, 40% lead) such as Kester "Resin 5" or Ersin "Multicore" solders. Do not use acid core solder or paste fluxes.
8. Screw endbell back onto connector.
9. Screw cable clamp to endbell.
10. Tighten two screws on cable clamp.

## WIRING DIAGRAM



## OUTLINE DRAWING



All dimensions are in inches.