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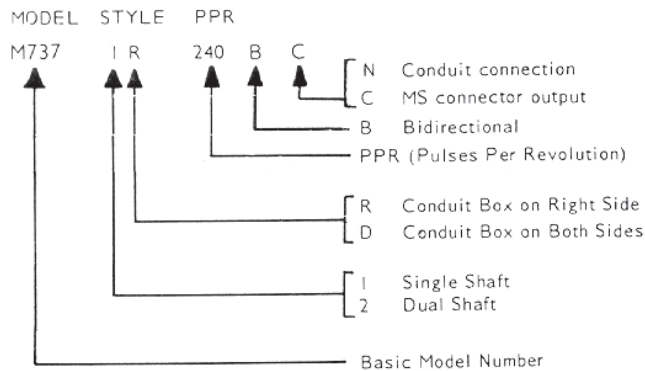
# Encoder Instructions

**M737**  
 INACTIVE DESIGN  
 Replaced by Model AV485

## Description

The Model M737 Pulse Generator is a zero-speed rotary transducer; that is, it can operate effectively down to zero RPM. The M737 generates a specific number of pulses for each rotation of its shaft. When the M737 is coupled to a machine, its output is directly proportional to process travel (pulse count) or speed (pulse rate). The output signal is generated by a large non-breakable disc rotating between an infrared source and four photo receptors. A rugged cast aluminum housing, hardened steel shaft, heavy-duty sealed bearings provide mechanical ruggedness required for industrial applications.

Various M737 options and how they are shown in the M737 part number are shown below:



## CAUTION

The M737 is often used for speed feedback in drive systems, where any failure can cause a machine shutdown. While the M737 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.

DO NOT open an M737. This will void the warranty.

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 M737 s (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 M737 output.

DO NOT connect oscilloscope or any instrument common to any pulse generator connection other than common.

## Specifications

Operating Power (each pickup).....	12 to 15 VDC at approx. 125 ma.
Output Signal	Two channels in quadrature (two-phase, bidirectional)
Pulses per revolution.....	240 ppr.
Wave Shape.....	Square Wave
Voltage Swing (No load).....	0.7 to 11-14 VDC
Frequency.....	0 to 12 kHz max. at 3000 rpm
Output Impedance.....	1000 Ohms pull up, 15 ma. sink
Output Protection .....	M737 output is short circuit protected to common
Speed Range.....	0 to 3000 rpm
Operating Temperature.....	32° to 160° F ambient
Weight.....	15 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.

## 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 M737 and the coupled driving shaft to allow for thermal expansion and end play.

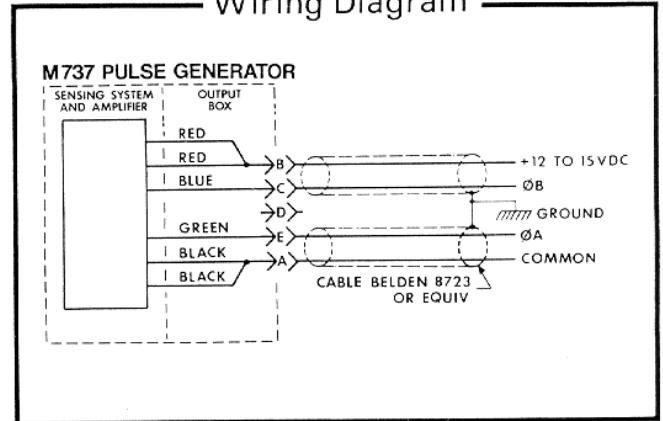
For more details and special considerations in specifying and installing drive components, refer to separate Installation Instructions, Avtron Rotary Pulse Generators.

## Special Application Notes

For bidirectional operation of the two-phase M737, proper phasing of the two output channels is important. Phase A channel leads phase B for clockwise rotation of the shaft as viewed from the end of the housing with the end plate (anti-drive end on units with single shaft extension).

Interconnection cables specified in the wiring diagrams below are based on typical applications with cable lengths limited to about 500 feet. Cable length, operating frequency, and receiving equipment affect choice of cable. Consult factory for recommendations for other conditions. If used with K661, consult K661 manual.

## Wiring Diagram



## Outline Drawing

