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Encoder Instructions

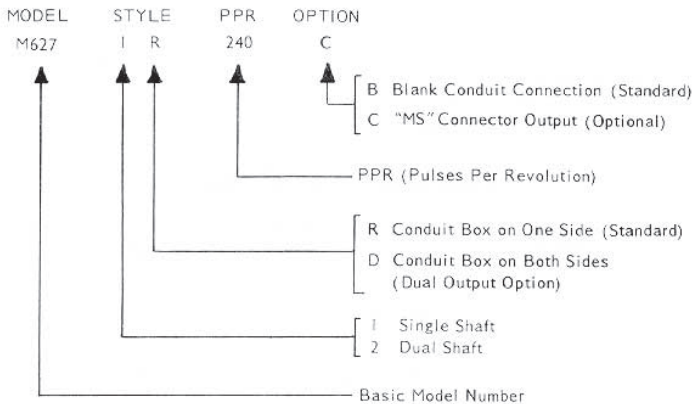
M627
 INACTIVE DESIGN
 Replaced by Model **M628A**

DESCRIPTION

The M627 is a heavy mill-duty reluctance-type rotary pulse generator for use with Avtron digital measurement systems.

This unit requires no external operating power. A magnetic transducer generates a signal pulse each time a tooth of a rotating steel gear passes its magnetic tip. Coupling the pulse generator to a machine shaft then produces an output frequency directly proportional to the rotational speed of the shaft.

Various M627 options and how they are shown in the M627 part number are shown below:



REPAIR OR REPLACEMENT

Service or repair of Avtron pulse generators requires special alignment and test equipment and trained personnel. It is recommended that broken or otherwise inoperative pulse generators be returned to Avtron for repair. Units not under the original equipment warranty will be restored for a nominal charge on a short turn-around basis. It is recommended that units which are badly damaged or become inoperative after years of service be replaced by re-manufactured units (subject to availability) or new units. Re-manufactured units are restored to like-new condition and carry the same one year warranty as new units, at a lower replacement cost.

SPECIFICATIONS

OUTPUT WAVEFORM.....	SINE WAVE
OUTPUT FREQUENCY.....	50Hz to 12KHz
OUTPUT LEVEL.....	0.5V P-P MIN. to 10 V P-P MAX. (TYPICAL) INTO 2.2K SERIES and .01 Mfd SHUNT LOAD
OUTPUT IMPEDANCE.....	600 OHMS
OUTPUT CONNECTIONS.....	8" LEADS, CONDUIT BOX ENTRY (MS CONNECTOR OPTIONAL)
PULSES PER REVOLUTION...	60,100,160,240,320,360 (Standard)
OPERATING SPEED.....	50 - 5000 RPM
OPERATING TEMP RANGE....	-20° TO +85° C
STARTING TORQUE.....	3 OZ. -IN
SHAFT INERTIA.....	0.38 OZ. -IN-SEC
ACCELERATION, MAXIMUM...	5,000 RPM/SEC.
SHAFT LOADING, MAXIMUM...	0 LBS. AXIAL, 5 LBS RADIAL
COUPLING RECOMMENDED...	ZERO BACKLASH TYPE, THOMAS DBZ OR EQUAL
SHAFT EXTENSION.....	SINGLE, STANDARD DUAL, OPTIONAL
WEIGHT.....	13.5 LBS. SINGLE OUTPUT 14.5 LBS. DUAL OUTPUT

I. INSTALLATION

The pulse generator should be driven by a positive drive rather than a friction or Vee-belt drive. The following means of driving the pulse generator may be used when installed in accordance with the coupling manufacturer's recommendations: Direct Coupling, Timing Belt and Pulleys, Chain and Sprockets, Gears. If a direct drive is used, use a flexible coupling and align the shafts as accurately as possible. (Misalignment should not exceed 0.010 T.I.R.). The pulse generator should not be subjected to any axial thrust. Overhung loads should also be minimized. Installations using timing belts and pulleys should have just enough belt tension to insure proper engagement of teeth. Excessive tension will shorten belt and bearing life.

CAUTION

Do not drive or force couplings or pulleys onto the shafts of the unit, otherwise damage to the bearing will result. Refer to coupling manufacturer's instructions for proper installation procedure. Allow clearance between the shaft ends or the hubs of the flexible couplings, as specified by the coupling manufacturer, to permit thermal expansion of the shaft in operation.

II. WIRING

A. For electrical connection of Model K627 with conduit box termination, remove the cover from its conduit box. The magnetic transducer located inside the conduit box, is provided with two wire leads. It is recommended that Belden #8412 or equivalent two-conductor shielded cable be used for interconnection of the pulse generator with the associated digital equipment. It is recommended (and national or local electric codes may require) that the interconnecting cable be run in conduit, even though the cable includes its own electrostatic shield. The conduit will protect the cable against damage and extend service life and reliability.

The following procedure may be used for making cable and conduit connections at the pulse generator:

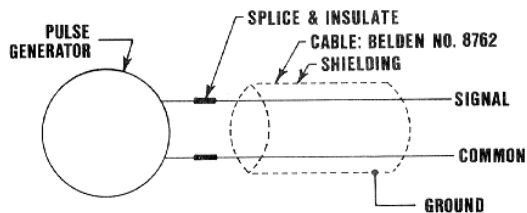
1. Remove proper conduit knockout plug.
2. Run the two conductor shielded cable through the conduit to the pulse generator.
3. Strip back the outer insulation about four inches.

4. Trim back and insulate the exposed shielding with electrical tape.
5. Remove the conduit box cover plate for access to the transducer leads. Install a suitable conduit fitting and connect the conduit.
6. Splice the two cable conductors to the two leads from the pulse generator. Use rosin core solder (60% tin, 40% lead) such as Ersin "Multicore" or Kester "Resin Five". Do not use acid core solder or paste fluxes. Insulate the splices.
7. Secure cover plate to the conduit box.

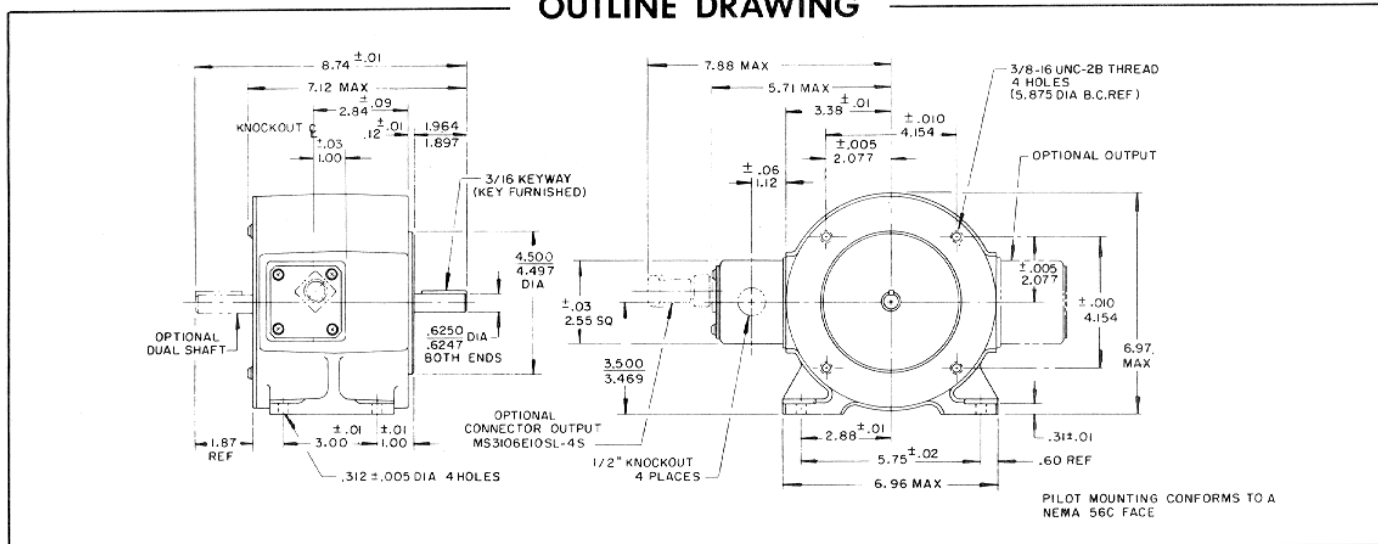
For units with MS Connector option, fabricate the cable into the connector plug as follows:

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 two leads into the connector using only rosin core solder as indicated previously.
8. Screw endbell back onto connector.
9. Screw cable clamp to endbell.
10. Tighten two screws on cable clamp.

WIRING DIAGRAM



OUTLINE DRAWING



PILOT MOUNTING CONFORMS TO A NEMA 56C FACE