



AVTRON INDUSTRIAL AUTOMATION, INC.

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Encoder Instructions

M727A

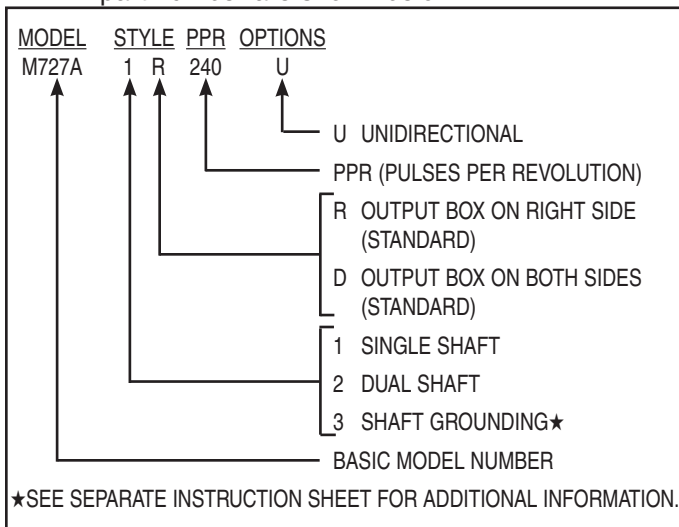
INACTIVE DESIGN
Replaced by Model **AV485**

DESCRIPTION

The Model M727A Pulse Generator is a zero-speed rotary transducer, allowing operation down to zero RPM. The M727A generates a specific number of pulses for each rotation of its shaft. When 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, steel shaft, and heavy-duty sealed bearings provide mechanical ruggedness required for industrial applications.

The M727A's second output is electrically independent and totally isolated. For many applications, this feature provides a running spare by simply interchanging output connectors.

Various M727A options and how they are indicated in the M727A part number are shown below:



CAUTION

DO NOT open an M727A. This will void the warranty.

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

CAUTION

Do not install M727A'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 or any grounded instrument to M727A output.

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

INSTALLATION

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

With a direct drive, use a flexible coupling and align the shafts as accurately as possible. 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. If a rubber slinger disc is used, position it on the shaft so it will rotate freely.

CAUTION

Do not force or drive the coupling onto the shaft, or damage to the bearings may result. The coupling should slide easily on the shaft. Remove nicks or rust if necessary. Consider driving shaft endplay when positioning coupling.

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

SPECIAL APPLICATION NOTES

Interconnection cables specified in the wiring diagrams are based on typical applications. Refer to the system drawing for specific cable requirements where applicable.

Physical properties of cable such as abrasion, temperature, tensile strength, solvents, etc., are dictated by the specific application. General electrical requirements are: stranded copper, 22 thru 16 gauge, braid or foil with drain wire, 0.05 MF maximum total mutual or direct capacitance, outer sheath insulator, 1,000 ft. max.

CABLE WIRING INSTRUCTIONS

The output box may be rotated in 90 increments allowing a selection of four different cable entry positions. Reinstall all gaskets when changing box positions.

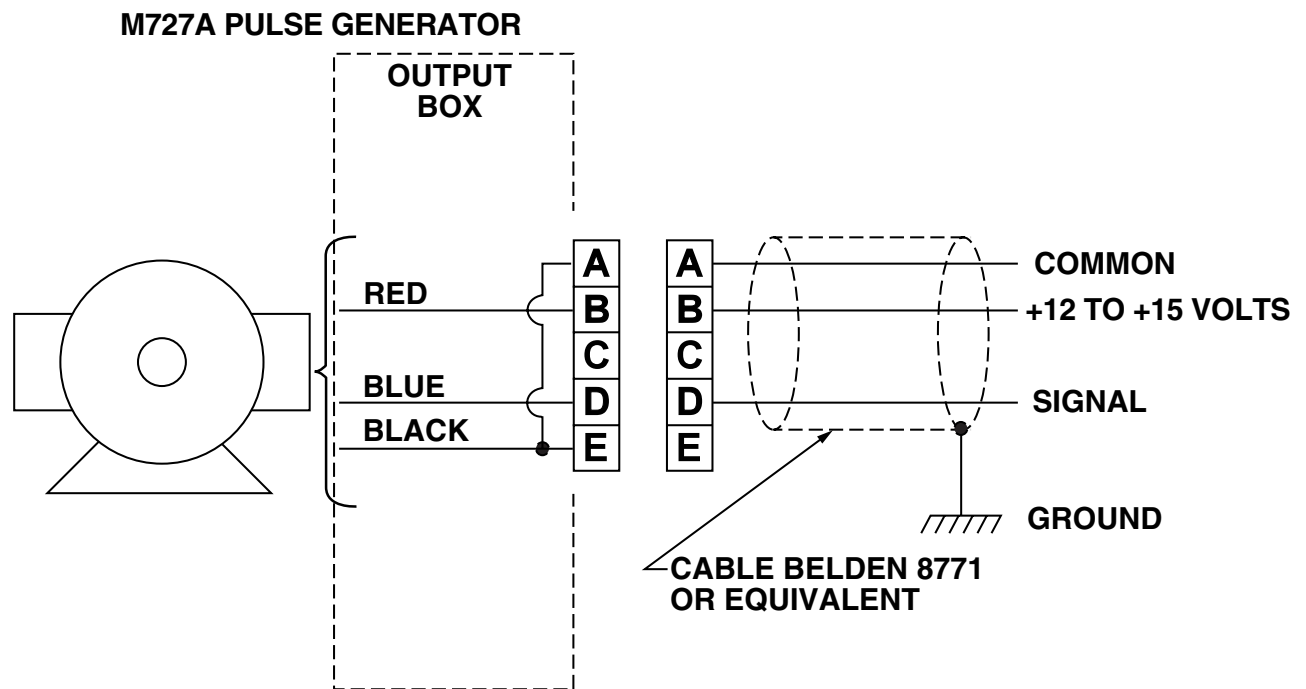
M727A SPECIFICATIONS:

OPERATING POWER (EACH PICKUP).....	12 TO 15 VDC AT APPROX. 50 mA
OUTPUT SIGNAL (STD. CONNECTION)	SINGLE CHANNEL (SINGLE-PHASE)
PULSES PER REVOLUTION	30, 60, 120, 240 PPR
WAVE SHAPE	SQUARE WAVE
VOLTAGE OUTPUT.....	HIGH: VDC -1.5 VOLTS N.L. 1000 OHM PULL UP LOW: 0 TO +1.5 VOLTS MAX. 10 mA SINK
FREQUENCY	0 TO 12 KHz MAXIMUM AT 3000 RPM (240 PPR) 0 TO 10 KHz MAXIMUM AT 5000 RPM (120 PPR)
LOAD IMPEDANCE.....	M727A OUTPUT IS SHORT CIRCUIT PROTECTED TO COMMON
OPERATING TEMPERATURE.....	32° TO 140° F AMBIENT
WEIGHT	15 LBS. (STYLE 2D)
MECHANICAL	
SPEED RANGE.....	0 TO 3000 RPM (240 PPR UNIT) 0 TO 5000 RPM (120 PPR UNIT)
STARTING TORQUE.....	2.2 OZ.-IN. (TYP.)
SHAFT INERTIA.....	0.373 OZ.-IN.-SEC ²
SHAFT LOADING	15 LBS. AXIAL, 50 LBS. RADIAL
ACCELERATION (MAX.)	5000 RPM/SEC
COUPLING RECOMMENDED.....	ZERO BACKLASH, THOMAS MINIATURE FLEXIBLE OR EQUIVALENT. WHERE AXIAL ENDPLAY EXCEEDS +/-0.020 INCH, USE THOMAS CCX OR EQUIVALENT.

NOTE: AVTRON STANDARD WARRANTY APPLIES.
COPIES AVAILABLE UPON REQUEST.

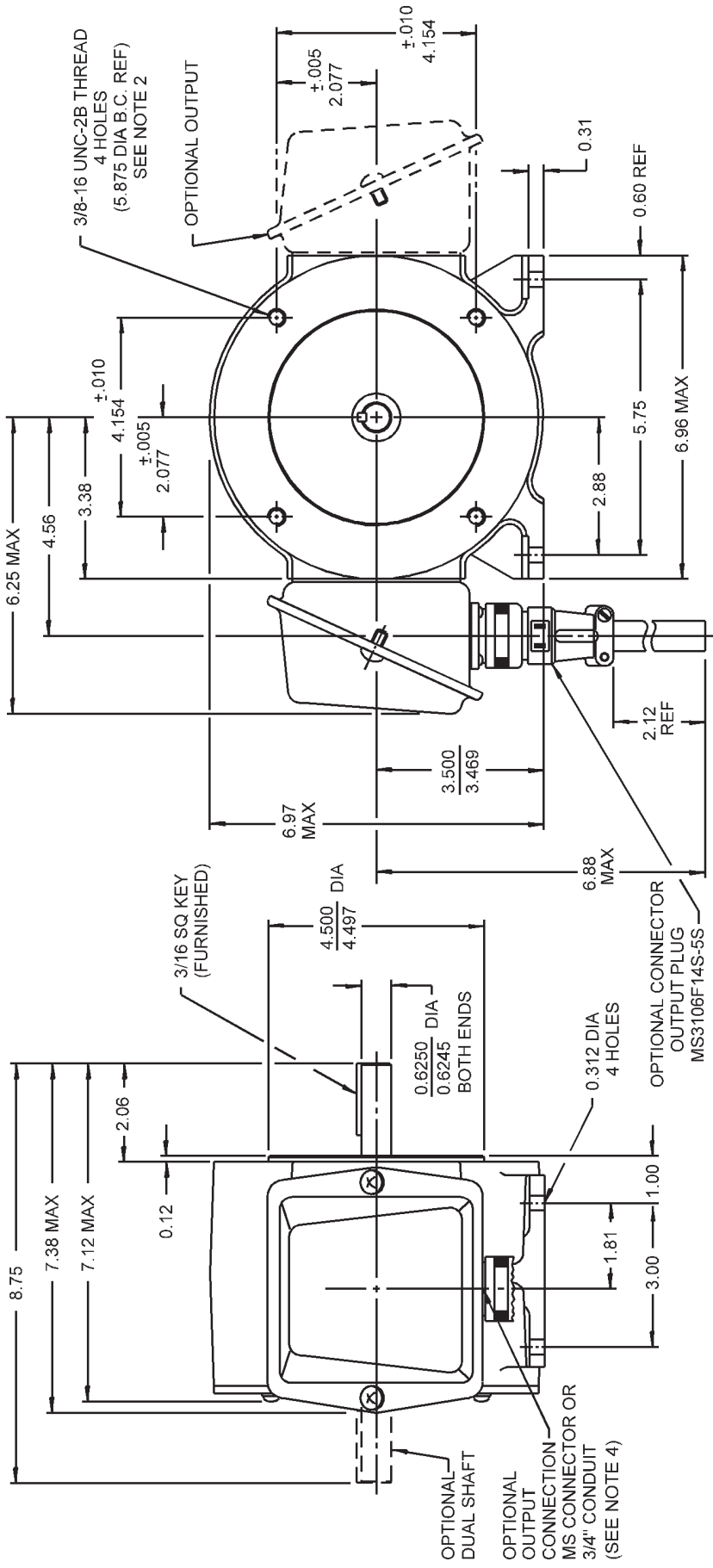
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

WIRING DIAGRAM



M727AWDMAC

NOTE: OPTIONAL OUTPUT CONNECTORS ARE SHOWN FACING DOWN FOR CLARITY. CONNECTORS WILL BE POSITIONED TOWARDS "C" FACE FOR SHIPMENT FROM FACTORY.



3- OUTPUT BOX MAY BE ROTATED 90° IN ANY ONE OF 4 POSITIONS.

2- PILOT MOUNTING CONFORMS TO A NEMA 56C FACE.

1- ALL DIMENSIONS ARE IN INCHES



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