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Encoder Instructions

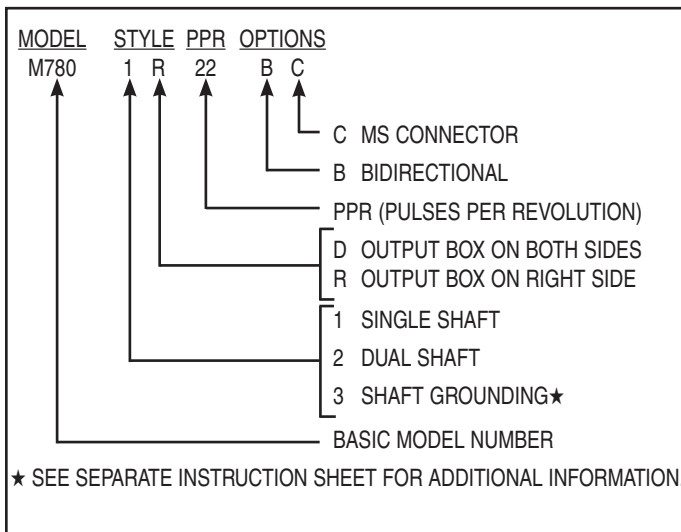
M780
 INACTIVE DESIGN
 Contact Help Desk

DESCRIPTION

The Model M780 Pulse Generator is a zero-speed rotary transducer, allowing operation down to zero RPM. The M780 generates a specific number of pulses for each full 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 in a slot of a magnetic sensor. A rugged cast aluminum housing, steel shaft, and heavy-duty sealed bearings provide mechanical ruggedness required for industrial applications.

The M780's second output is electrically independent and totally isolated. For many applications, this feature provides a running spare by simply interchanging output connectors.

Various M780 options and how they are indicated in the M780 part number are shown below:



CAUTION

DO NOT open an M780. 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 M780'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 M780 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

Units of 15 PPR or less have phase related signals and may be used in direction sensing applications. The signal available in the connector closest to the housing end

cover will lead the signal in the other connector for clockwise rotation. Clockwise rotation is defined as viewed from the anti-drive end or end cover end of the housing. This assumes, on dual shaft units, the driven shaft is the shaft at the Nema 56C face end of the housing.

Each output box consists of two connectors each having its own output signal. The signals on units with 16 through 22 PPR are not phase related. All output signals are totally isolated. The wiring diagram shown is for each signal output.

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.

M780 SPECIFICATIONS:

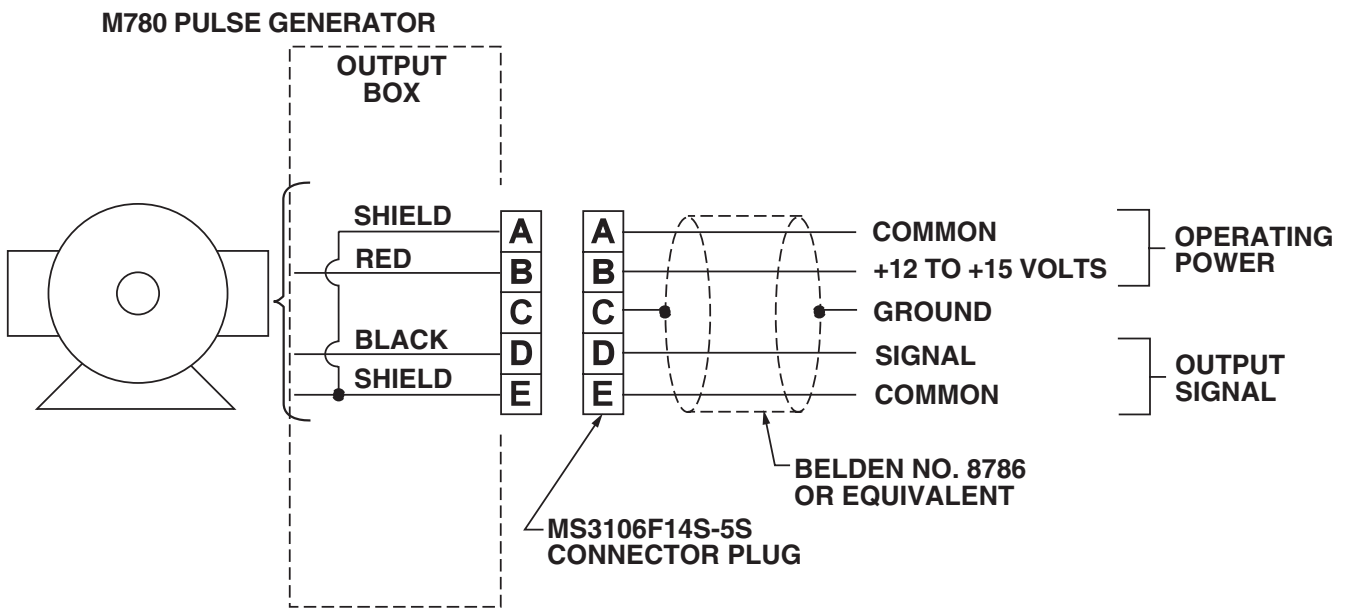
OPERATING POWER (EACH PICKUP)	12 TO 15 VDC AT APPROX. 30 mA N.L.
OUTPUT SIGNAL	CONNECTIONS BY "MS" CONNECTOR
PULSES PER REVOLUTION.....	1 THROUGH 15 (PHASED FOR DIRECTION SENSING). 22 PPR MAXIMUM 16 THROUGH 22 (NON PHASE RELATED)
WAVE SHAPE	SQUARE WAVE
VOLTAGE OUTPUT	HIGH: VDC -2 VOLTS -13 mA SOURCE MAX. LOW: 1.5 VOLTS MAX. 15mA SINK MAX.
OUTPUT PROTECTION.....	SHORT CIRCUIT PROTECTION COMMON
FREQUENCY	0 TO 1100 Hz MAX. AT 3000 RPM
OPERATING TEMPERATURE	32° TO 140° F AMBIENT
WEIGHT	15 LBS. (STYLE 2D)
MECHANICAL	
SPEED RANGE.....	0 TO 3000 RPM (22 PPR MAXIMUM)
STARTING TORQUE	3 OZ.-IN. (TYP.)
SHAFT INERTIA.....	0.38 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.

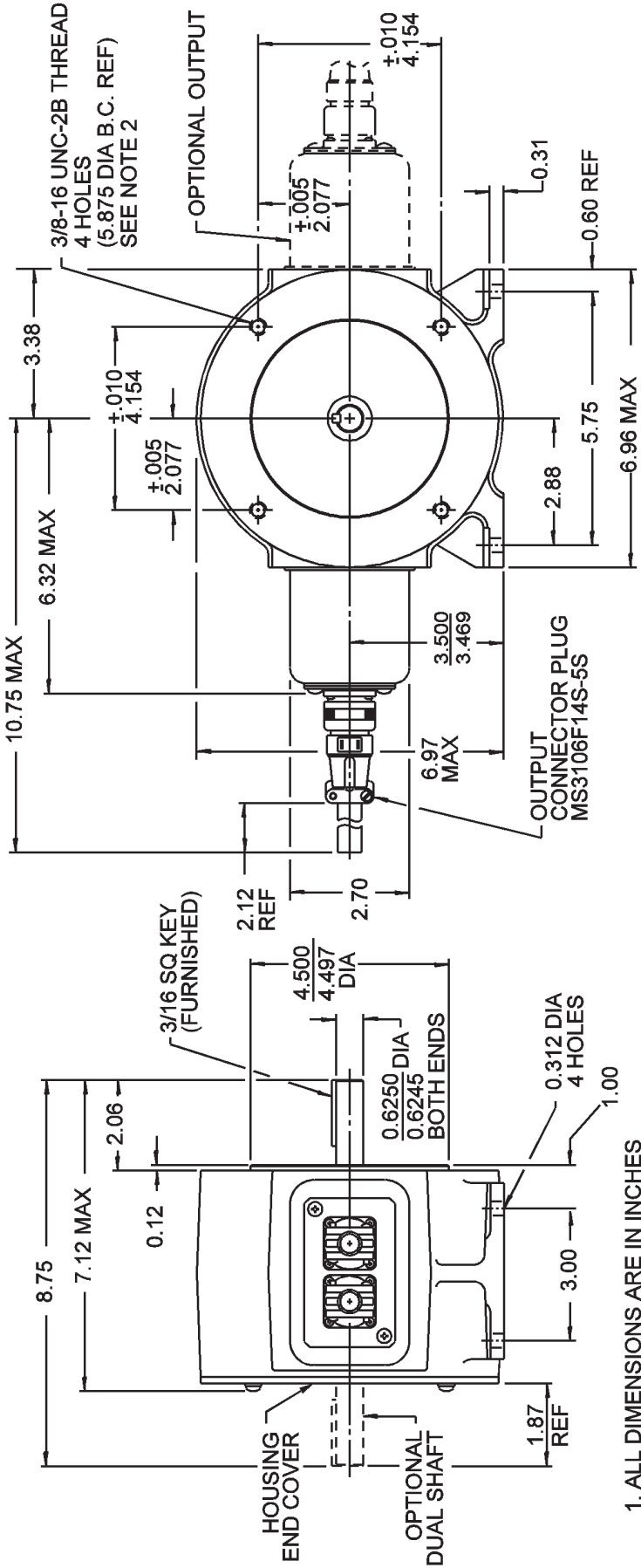
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

WIRING DIAGRAM

EACH OUTPUT



M780WDMAC



M7800LLAN

1. ALL DIMENSIONS ARE IN INCHES
2. PILOT MOUNTING CONFORMS TO A NEMA 56C FACE.



INDUSTRIAL AUTOMATION, INC.

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