



8901 E. PLEASANT VALLEY ROAD  
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## Encoder Instructions

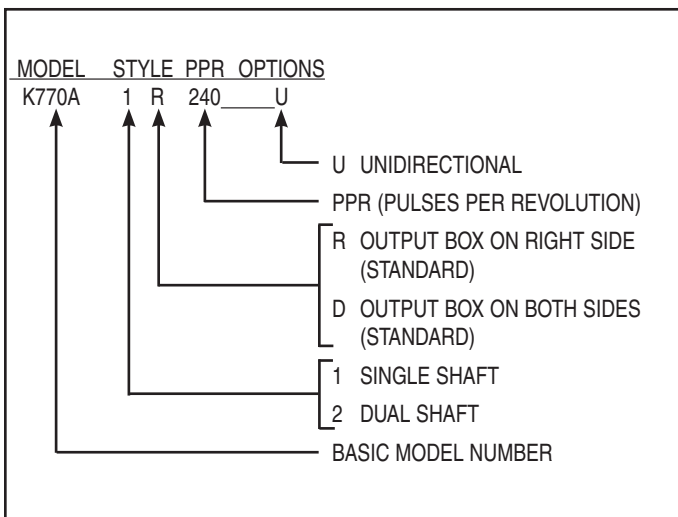
**K770A**  
 INACTIVE DESIGN  
 Contact Help Desk

### DESCRIPTION

The Model K770A Pulse Generator is a zero-speed rotary transducer, allowing operation down to zero RPM. The K770A 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 optical disc rotating between an LED source and photo detector in an epoxy encapsulated sensing assembly. A rugged cast aluminum housing, steel shaft, heavy-duty sealed bearings and slinger disc on shaft extension provide mechanical ruggedness required for industrial applications.

The K770A's second output is electrically independent and totally isolated. For many applications, this feature provides a running spare by simply interchanging output connectors.

Various K770A options and how they are indicated in the K770A part number are shown below:



### CAUTION

**DO NOT open a K770A, or remove a sensor. This will void the warranty.**

### CAUTION

**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.**

**Do not install K770A'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 K770A output.**

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

### 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.

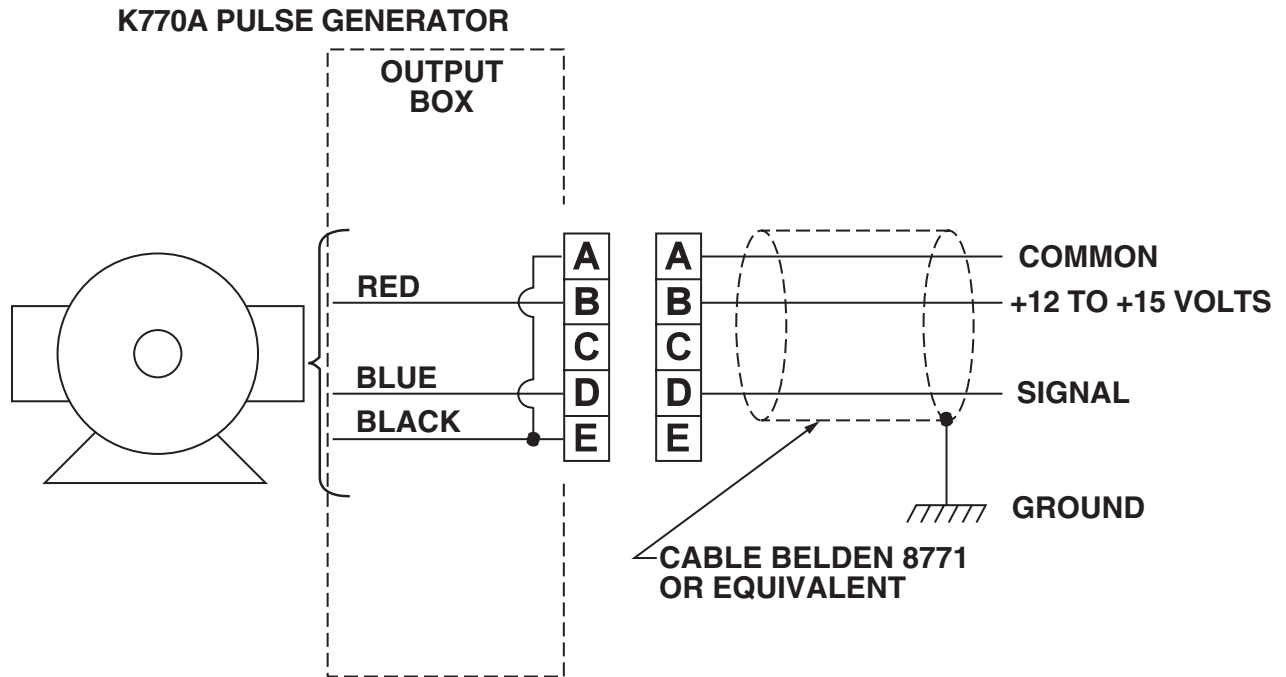
## K770A SPECIFICATIONS:

<b>OPERATING POWER (EACH PICKUP).....</b>	12 TO 15 VDC AT APPROX. 50 mA
<b>OUTPUT SIGNAL (STD. CONNECTION) .....</b>	SINGLE CHANNEL (SINGLE-PHASE)
<b>PULSES PER REVOLUTION .....</b>	30, 60, 120, 240 PPR
<b>WAVE SHAPE .....</b>	SQUARE WAVE
<b>VOLTAGE OUTPUT.....</b>	HIGH: VDC -1.5 VOLTS N.L. 1000 OHM PULL UP LOW: 0 TO +1.5 VOLTS 10 mA SINK
<b>FREQUENCY .....</b>	0 TO 12 KHz MAXIMUM AT 3000 RPM (240 PPR) 0 TO 10 KHz MAXIMUM AT 5000 RPM (120 PPR)
<b>LOAD IMPEDANCE .....</b>	K770A OUTPUT IS SHORT CIRCUIT PROTECTED TO COMMON
<b>OPERATING TEMPERATURE.....</b>	32° TO 140° F AMBIENT
<b>WEIGHT .....</b>	8 LBS.
<b>MECHANICAL</b>	
<b>SPEED RANGE.....</b>	0 TO 3000 RPM (240 PPR UNIT) 0 TO 5000 RPM (120 PPR UNIT)
<b>STARTING TORQUE.....</b>	2.2 OZ.-IN. (TYP.)
<b>SHAFT INERTIA.....</b>	0.373 OZ.-IN.-SEC <sup>2</sup>
<b>SHAFT LOADING.....</b>	15 LBS. AXIAL, 45 LBS. RADIAL
<b>ACCELERATION (MAX.) .....</b>	5000 RPM/SEC
<b>COUPLING RECOMMENDED.....</b>	ZERO BACKLASH, THOMAS MINIATURE FLEXIBLE OR EQUIVALENT. WHERE AXIAL ENDPLAY EXCEEDS +/-0.020 INCH, USE THOMAS CCX OR EQUIVALENT.

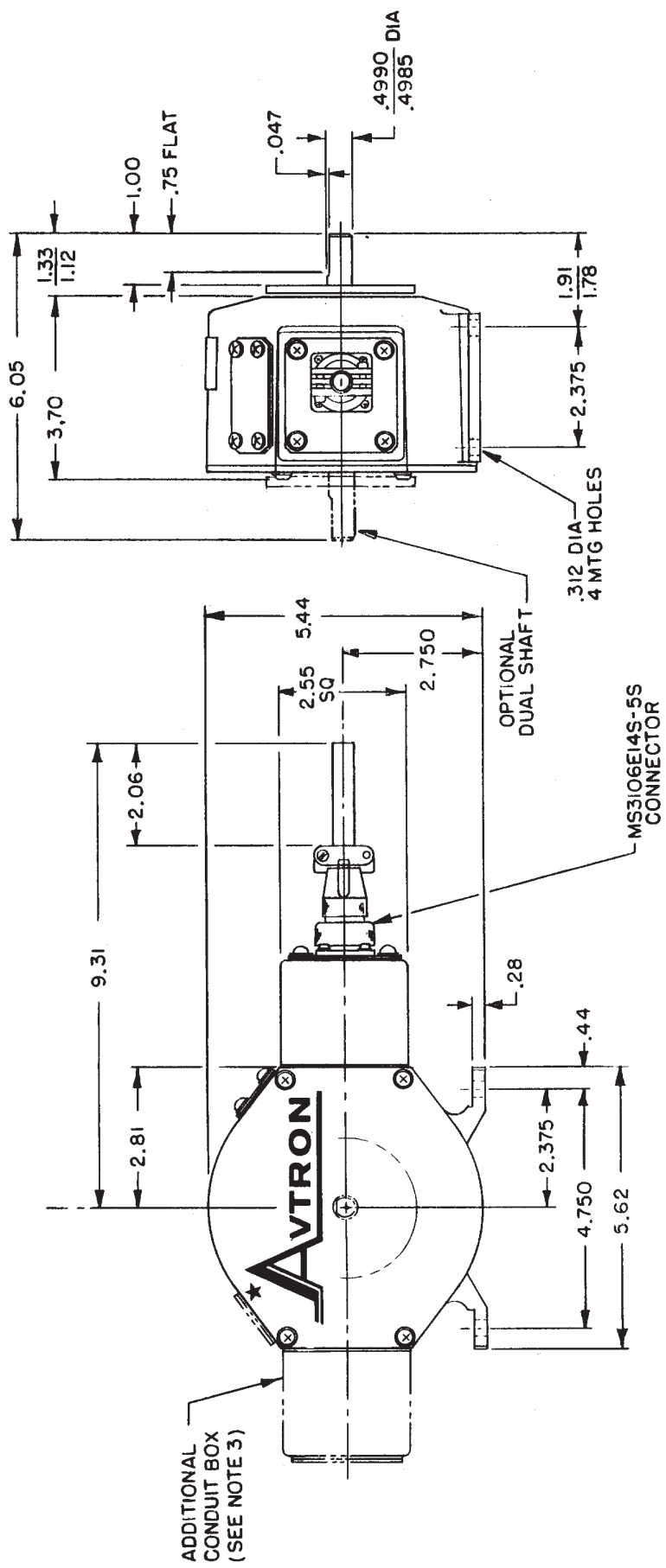
NOTE: AVTRON STANDARD WARRANTY APPLIES.  
COPIES AVAILABLE UPON REQUEST.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

# WIRING DIAGRAM



K770AWDMAC



- 3-CONDUIT BOXES BOTH SIDES FOR DUAL OUTPUT UNITS.
- 2- ALL DIMENSIONS ARE APPROX.
- 1- WEIGHT: SINGLE OUTPUT : 7.5 LBS
- DUAL OUTPUT : 8.5 LBS

NOTES:



INDUSTRIAL AUTOMATION, INC.

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