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Encoder Instructions

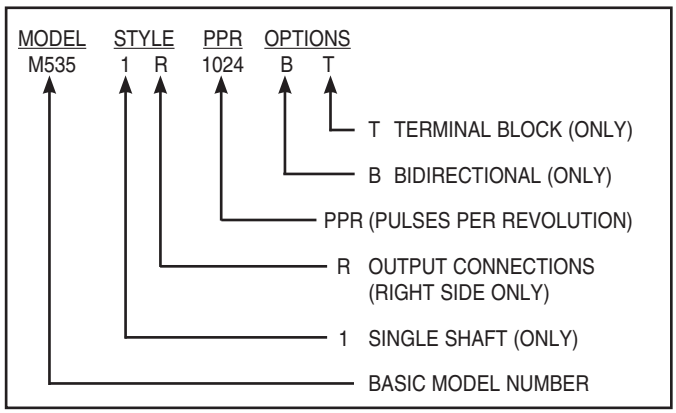
M535
INACTIVE DESIGN
Replaced by Model **M6**

DESCRIPTION

The M535 design incorporates an explosion-proof, zero-speed pulse generator adapted to a NEMA 56C face. The generator is UL listed for NEMA 7, Class 1, Group D, Division 1 for use in hazardous locations. A rear cover plate provides access to a terminal block for electrical connections. Conduit connections are made to a ½-14 (dryseal) straight pipe thread.

The incremental electrical output is proportional to shaft speed which generates a fixed number of pulses per revolution (PPR). Two electrical channels in quadrature allow for reversible or direction sensing applications.

The M535 options and how they are incorporated in the M535 part number are shown below:



CAUTION

The M535 is often used for speed feedback in drive systems, where any failure can cause a machine shutdown. While the M535 is designed for continuous mill operation, it is important to follow proper procedures with this unit.

CAUTION

The M535 must be driven by a positive drive rather than a friction drive. Use a flexible coupling and align the shafts as accurately as possible. The pulse generator should not be subjected to any axial thrust.

CAUTION

DO NOT force or drive coupling member onto the shaft, or damage to the bearings or sensing system will result. Provide clearance between shaft end of M535 and the coupled driving shaft to allow for thermal expansion and endplay.

M535 SPECIFICATIONS

OPERATING POWER	+12 TO 15 VDC @ 150 mA (N.L.)
OUTPUT SIGNAL	TWO CHANNELS IN QUADRATURE (TWO-PHASE, A AND B) WITH COMPLEMENTS ($\bar{A}$ AND $\bar{B}$)
PULSES PER REVOLUTION	240, 1024, 2048. OTHERS AVAILABLE UPON REQUEST
WAVE SHAPE	SQUARE WAVE, 50 ±15% DUTY CYCLE
ØA TO ØB TRANSITION SEPARATION	15% MINIMUM
VOLTAGE SWING	HIGH: SUPPLY VOLTAGE - 2.5 VOLTS @ 40mA SOURCE LOW: 1.5 VOLTS MAX. @ 30mA SINK
FREQUENCY	100 KHz MAX.
CONNECTIONS	TERMINAL BLOCK VIA ½-14 NPSF STRAIGHT PIPE THREAD
SPEED RANGE	0 TO 3000 RPM
OPERATING TEMPERATURE	0° TO 158° F AMBIENT
WEIGHT	7 LBS.
MECHANICAL	
STARTING TORQUE	4.0 OZ - IN (TYP.)
SHAFT INERTIA	0.00041 OZ. - IN - SEC^2
COUPLING RECOMMENDED	ZERO BACKLASH, THOMAS MINIATURE FLEXIBLE OR EQUIVALENT (WHERE AXIAL ENDPLAY EXCEEDS +/- 0.020, USE THOMAS CCX OR EQUIVALENT.)

Features subject to change without notice.

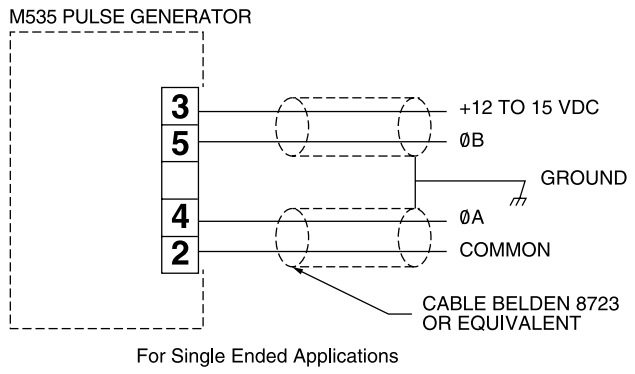
SPECIAL APPLICATION NOTES

For bidirectional operation of the two-phase M535, 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 anti-drive end of the housing.

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

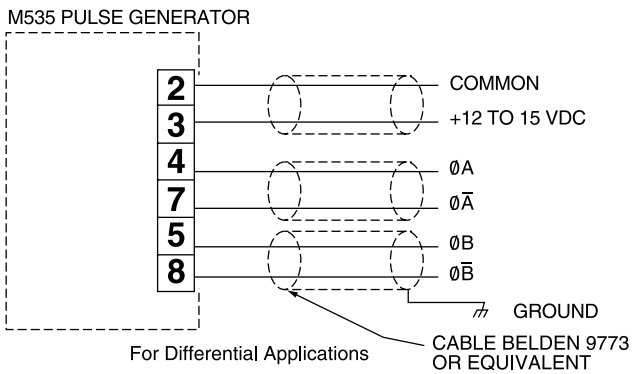
Physical properties of cable such as abrasion, temperature, tensile strength, solvents, etc., are dictated by the specific application. General electrical requirements are: stranded copper, 22 thru 16 gauge, braid or foil with drain wire, 0.05 MF maximum total mutual or direct capacitance, outer sheath insulator, 1,000 ft. max. A typical installation might use Belden 8723 for single ended applications or Belden 9773 for differential applications. If used with K661, consult K661 manual.

WIRING DIAGRAM



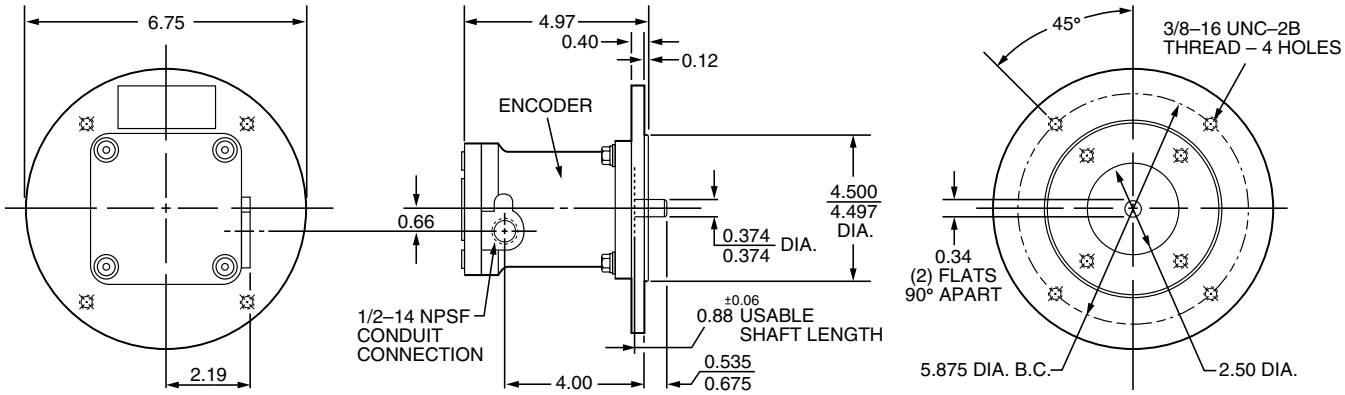
For Single Ended Applications

WIRING DIAGRAM



For Differential Applications

OUTLINE DRAWING



Avtron standard warranty applies. Copies available upon request.

Specifications subject to change without notice.
All dimensions are approximate.
Printed in the U.S.A. Rev. -

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