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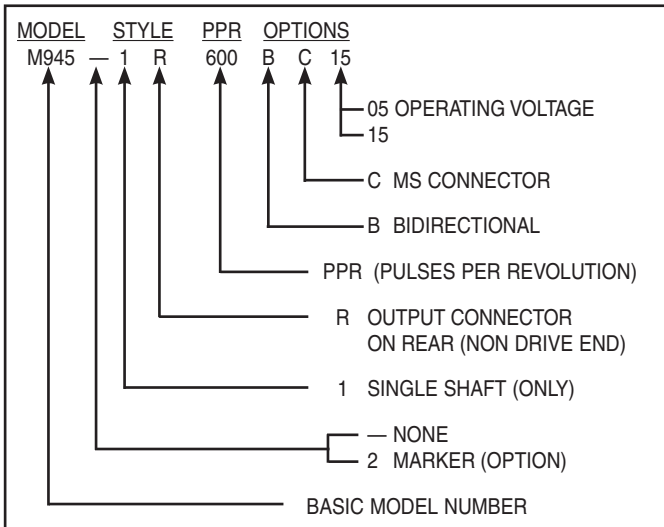
Encoder Instructions

M945
 INACTIVE DESIGN
 Replaced by Model AV485

DESCRIPTION

The Model M945 Pulse Generator is a zero-speed rotary transducer; that is, it can operate effectively down to zero RPM. The M945 generates a specific number of pulses for each rotation of its shaft. When the M945 is coupled to a machine, its output is directly proportional to process travel (pulse count) or speed (pulse rate). A 5/8" steel shaft, and heavy-duty sealed bearings provide mechanical ruggedness required for industrial applications.

The M945 options and how they are incorporated in the M945 part number are shown below:



CAUTION

The M945 is often used for speed feedback in drive systems, where any failure can cause a machine shutdown. While the M945 is designed for continuous mill operation, it is important to follow proper procedures with this unit.

DO NOT force or drive a coupling onto the shaft. This can damage bearings so that a failure will happen at a later time.

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

DO NOT connect grounded oscilloscope or any grounded instrument to M945 output.

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

M945 SPECIFICATIONS

	+5 V OPERATING VOLTAGE	+15 V OPERATING VOLTAGE
OPERATING POWER	+5 VDC ± 10%, 120 mA (N.L.)	.....+12 TO +15 VDC, 120 mA (N.L.)
OUTPUT SIGNAL	TWO CHANNELS (A, B), IN QUADRATURE (TWO-PHASE, BIDIRECTIONAL) WITH COMPLEMENTS (Ā, B̄)	.....TWO CHANNELS (A, B), IN QUADRATURE (TWO-PHASE, BIDIRECTIONAL) WITH COMPLEMENTS (Ā, B̄), MARKER (OPTIONAL)
PULSES PER REVOLUTION.....	240, 360, 500, 600, 1000, 1024, 1200, 1800, 2000, 2048, and 2500 STANDARD. OTHER PPR'S AVAILABLE.	.....240, 360, 500, 600, 1000, 1024, 1200, 1800, 2000, 2048, 2500, AND 4096 STANDARD. OTHER PPR'S AVAILABLE.
WAVE SHAPE.....	SQUARE WAVE	.....SQUARE WAVE
ØA TO ØB TRANSITION SEPARATION.....	15% MINIMUM	.....15% MINIMUM
VOLTAGE OUTPUT.....	HIGH: 1.8 VOLT MIN. @ -40 mA SOURCE LOW: 0.5 VOLT MAX., 50 mA SINK	.....HIGH: SUPPLY VOLTAGE MINUS 1.6 VOLT -30 mA SOURCE LOW: 0.5 VOLT MAX., 16 mA SINK
FREQUENCY	75 KHz MAX.	.....75 KHz MAX.
OUTPUT CONNECTIONS.....	MS CONNECTOR MATING PLUG: MS3106E18-1S	.....MS CONNECTOR MATING PLUG: MS3106E18-1S
MECHANICAL		
SPEED RANGE	0 TO 3000 RPM (CONTINUOUS)	.....0 TO 3000 RPM (CONTINUOUS)
STARTING TORQUE.....	2.2 Oz. - In. (TYP)	.....2.2 Oz. - In. (TYP)
SHAFT INERTIA.....	0.1 Oz. - In. - Sec ²	.....0.1 Oz. - In. - Sec ²
ACCELERATION (MAX.).....	5,000 RPM/Sec.	.....5,000 RPM/Sec.
COUPLING RECOMMENDED.....	ZERO BACKLASH, THOMAS DBZ OR EQUIVALENT. WHERE AXIAL ENDPLAY EXCEEDS +/- 0.020", USE THOMAS CCX OR EQUIVALENT.	.....ZERO BACKLASH, THOMAS DBZ OR EQUIVALENT. WHERE AXIAL ENDPLAY EXCEEDS +/- 0.020", USE THOMAS CCX OR EQUIVALENT.
OPERATING TEMPERATURE	0° TO 140° F	.....0° TO 140° F
WEIGHT	7 LBS.	.....7 LBS.

Features subject to change without notice.

The pulse generator 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. If a rubber slinger disc is used, position it on the shaft so it will rotate freely.

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 M945 and the coupled driving shaft to allow for thermal expansion and end play.

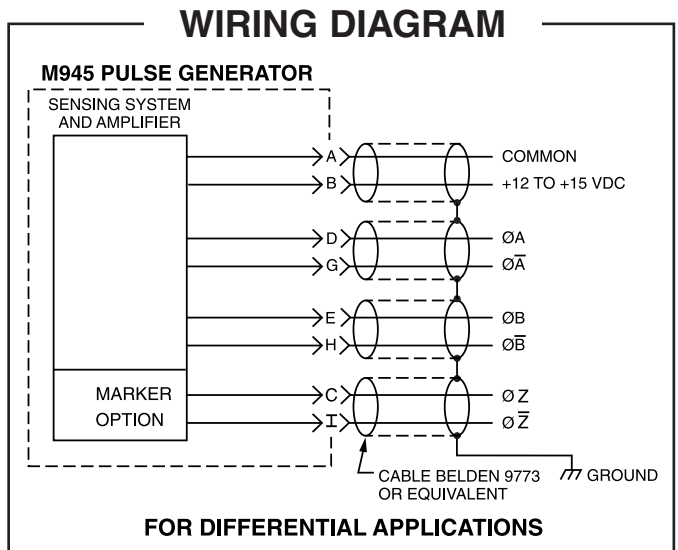
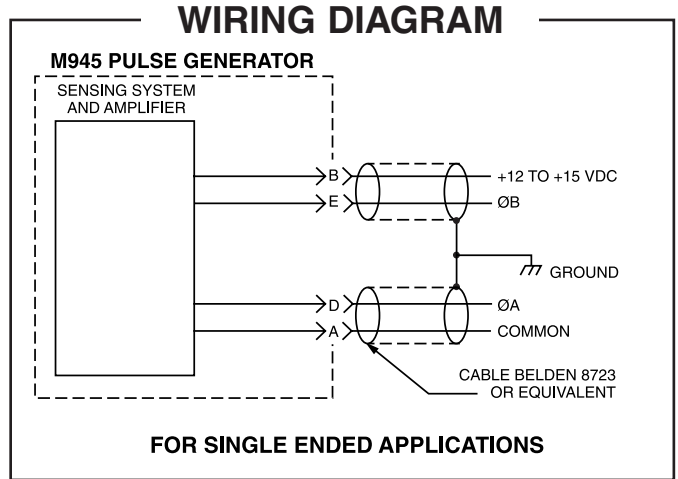
For more details and special considerations in specifying and installing drive components, refer to separate installation instructions, Avtron Pulse Generator Handbook.

SPECIAL APPLICATION NOTES

For bidirectional operation of the two-phase M945, 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.



OUTLINE DRAWING

