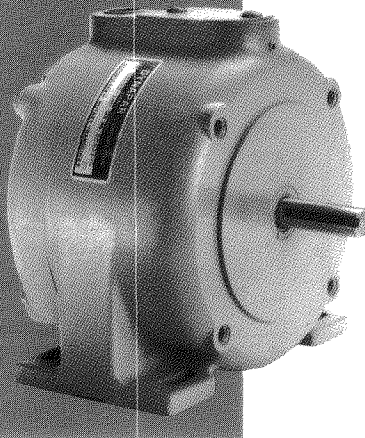


Series 78 Rotopulser® Encoders

This product has been discontinued.
Please contact Dynapar for assistance.
1-800-873-8731
www.dynapar.com

Rotopulser®



- **NEMA 56C foot and face mount**
- **Up to 360 PPR tach signals**
- **Choice of lower cost variable reluctance or zero-speed magneto-resistive technology**

The Series 78 Rotopulser® is a unidirectional, incremental, magnetic encoder which can be specified with either a variable reluctance or magneto-resistive sensor. (For specification assistance, refer to the Application Considerations section below.) A rotating gear is used to generate speed signals.

The Series 78 has a large 5/8" diameter shaft and two heavy-duty bearings. The sensors are housed in a heavy cast aluminum enclosure for longer mechanical and electrical life. Heavy-duty mechanical construction, and reliable operation in wet, dirty, high temperature environments have made the Series 78 a popular selection in many industrial and commercial operations.

Application Considerations

Variable Reluctance

Series 78 variable reluctance units are popular because they are lower cost and require no external power source. Variable reluctance units generate an AC sinusoidal voltage with a peak-to-peak value that increases in direct proportion to increases in shaft RPM. These signals are compatible with most instruments and speed indicators with sinewave input capabilities. For example, a 60 PPR unit produces 60 electrical AC cycles of voltage for each revolution of the shaft. In addition, a minimum RPM will be required to generate 1/2 to 2 volts peak-to-peak needed by an instrument for reliable speed indicating. For example, the speed range of the Series 78 is 30 to 4000 RPM with Dynapar instruments.

Magneto-Resistive

The Series 78 magneto-resistive units provide a DC squarewave speed signal with constant voltage pulses across the entire speed range from zero to 4000 RPM. These signals are compatible with most digital instruments and speed indicators. For example, the speed range for Series 78 magneto-resistive units is 0 to 4000 RPM with Dynapar instruments.

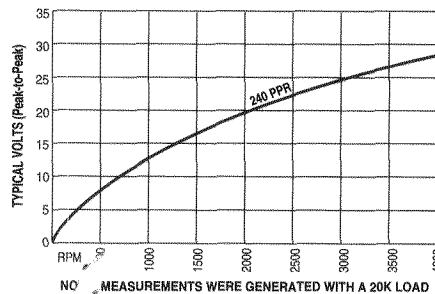
SPECIFICATIONS

Electrical

(Variable Reluctance Units)

Power Requirements: None

Output: Sinewave



Cable length: Maximum recommended cable length is 100 feet, but can be extended to 300 feet if the minimum required operating speed is above 300 RPM. Line amplifiers are available for longer line lengths. Consult factory.

SPECIFICATIONS

Electrical

(Magneto-Resistive Units)

Output: Squarewave

Power Requirements: 4.5 to 15 VDC; 15 mA plus load

Electrical Ratings

Outputs	Voltage Range	Sink (mA)	Source (mA)	Operating Speed
Current Sink (open collector w/2.0 kΩ pull-ups)	4.5-15VDC	25	0.8 @ 3.5V output	10 kHz max.

SPECIFICATIONS

Mechanical & Environmental

Speed Range: Up to 4000 RPM max.

Bearings: Lifetime lubricated ball bearings

Operating Temperature: +32 to +170°F

Housing: Cast aluminum standard (Optional cast iron available; consult factory.)

Shaft: Stainless steel, 5/8" dia.

Weight: 8 lbs.

Starting Torque: 15 oz-in

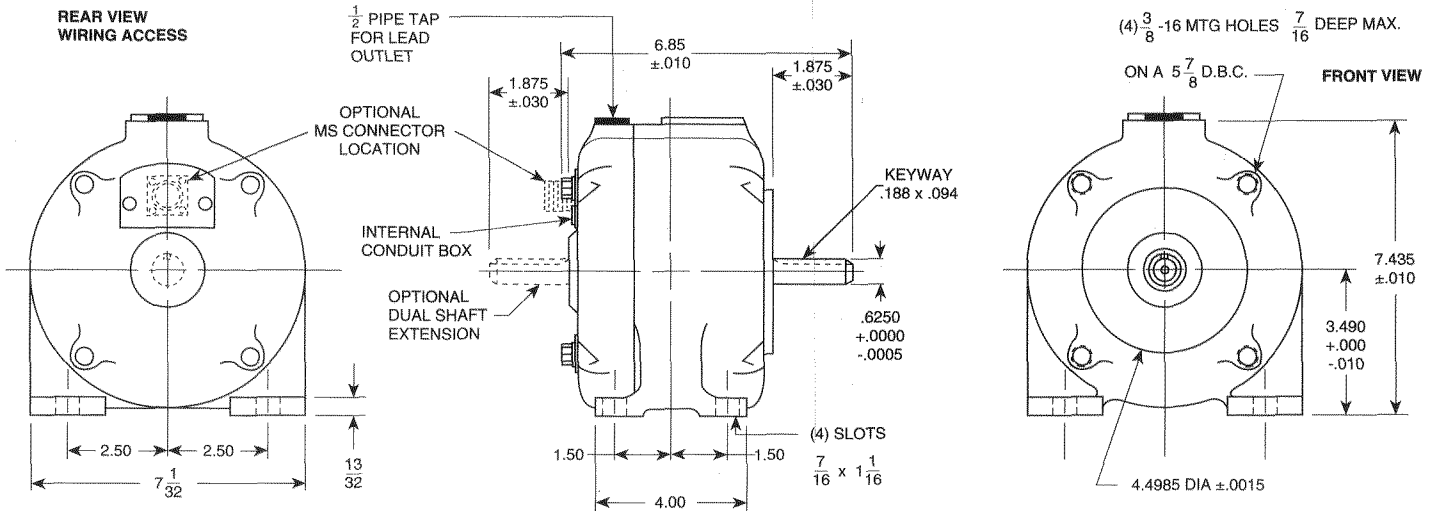
Running Torque: 9 oz-in

Inertia: 15,000 gram cm²

Radial Load: 45 pounds overhung

Axial Load: 15 pounds

Approximate Dimensions (in inches)*



*Zero speed 240 PPR units are supplied in the Series 60P housing. See dimensions for Series 60P encoders.

Electrical Connections

Function	Single Output Sinewave	Dual Output Sinewave	Single Output Squarewave
Power	—	—	Pin A
Signal A	Pin A	Pin A	Pin B
Common	Pin B	Pin B	Pin D
Signal A'	—	Pin C	—
Common	—	Pin D	—
Case Ground	—	—	Pin E

Terminal Screws: For variable reluctance units with 1/2" NPT conduit entrance, there are two screw terminals (two sets of terminals for dual isolated output units). Terminations are not polarity sensitive. Either terminal may be used for signal, and the other terminal for signal common.

Recommended Cables and Mating Connectors

	Single Output Sinewave	Dual Output Sinewave	Single Output Squarewave
Recommended Cables	Belden #8760 or equivalent	2x Belden #8760 or equivalent	Alpha 2403 or equivalent
Mating Connector (MS Style)	MS3106A10SL-4S or Dynapar # MCN-N1	MS3106A-14S-2S or Dynapar # MCN-N7	MS3106A-14S-5S or Dynapar # MCN-N3

Cable Shield: When preparing the cable, the shield should be insulated from the sensor's mating connector, and should be connected to ground at the instrument during installation.

Ordering Information

To order, complete the model number with a three digit code for choice of pulses per revolution (PPR). Special PPR's up to 600 are available; consult factory.

Output Waveform	Shaft	Termination	Model No.
Single Unidirectional Sinewave 	Single-ended	Terminal screws	78PRT- _ _ _
		MS connector	78PRM- _ _ _
	Double-ended	Terminal screws	78SRT- _ _ _
		MS connector	78SRM- _ _ _
Dual Unidirectional (Isolated Outputs) 	Single-ended	Terminal screws	78PDT- _ _ _
		MS connector	78PDM- _ _ _
	Double-ended	Terminal screws	78SDT- _ _ _
		MS connector	78SDM- _ _ _
Unidirectional Squarewave* 	Single-ended	MS connector	78PZM- _ _ _ *
	Double-ended		78SZM- _ _ _ *

*Zero speed 240 PPR units are supplied in the Series 60P housing. See dimensions for Series 60P encoders.

PPR	Option Code
60	060
120	120
240*	240
360**	360

**360 PPR is standard with sinewave output only.