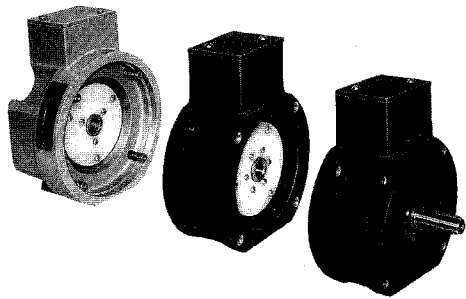


Dynapar brand Encoder Series 74 Rotopulser®



Bulletin Number: 701845

Revision Level: B

Date: 8/5/93

Manufactured by:

Danaher Controls
1675 Delany Road
Gurnee, IL 60031-1282
Phone: 708.662.2666
Fax: 708.662.6633

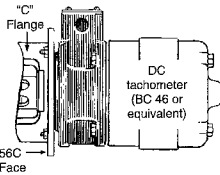
Application Assistance 1.800.234.8731

Technical Bulletin

The Series 74 Rotopulser is a unidirectional incremental shaft encoder which uses a magnetic sensor and a gear to generate pulses.

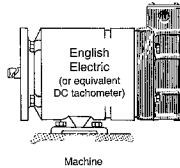
The three models are designed to provide easy physical mounting in a variety of applications without the need for couplings or brackets. Further, all models are self-aligning.

TYPE 74S: The rear side of the 74S provides a female 56C-face and hollow shaft with keyway for direct mounting to the front of a 56C tachometer generator (G.E. BC46 and BC42) or similar device. The front side provides a NEMA 56, male C-Face and a shaft extension with keyway for coupling to the back of a motor with a C Flange Spacer and Coupling.



TYPE 74C: The rear side of the 74C is identical to the rear side of the 74S. The front side is a blank end-bell. It can be mounted to any 56C male face without a coupling.

TYPE 74E: The rear side of the 74E provides a hollow shaft with a keyway and permits direct mounting to the rear of those English Electric DC tachometer generators which have the optional rear keyway shaft extension. This shaft must be shortened when installing. The front side is a blank end-bell.



All Series 74 Rotopulsers are available with the user's choice of 1) self-powered, sinewave output, variable reluctance sensors, or 2) squarewave output, magneto-resistive sensors. Reliable operation in wet, dirty, high-temperature industrial environments has made the Series 74 a popular feedback package.

SPECIFICATIONS

Electrical

(Variable Reluctance Models)

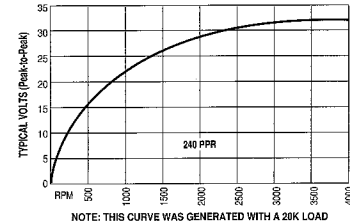
Speed Range: 30 to 4000 RPM max.

Max. Frequency: 20 kHz

Power Requirements: None

Output: Sinewave

Note: These units must be turning 30 RPM to drive Dynapar instruments and indicators. Other products may require different speeds. See graph for application detail.



Cable Length: Maximum recommended cable length is 100 feet, but can be extended to 300 feet at speeds above 300 RPM. Line amplifiers are available for longer line lengths. Consult factory.

SPECIFICATIONS

Electrical

(Magneto-Resistive Units)

Speed Range: 0 to 4000 RPM max.

Output: Squarewave

Output Type: Open Collector NPN w/2k pullup; 25 mA Sink/0.8 mA source at 3.5 volt output

Output Frequency: 10 kHz max.

Input Power: 4.5 to 15 VDC

Current: 15 mA plus load

SPECIFICATIONS

Mechanical & Environmental

Bearings: Lifetime lubricated ball bearings

Operating Temp: +32 to +170°F

Housing: Cast aluminum

Shaft: Cold rolled steel, 5/8" diameter

Weight: 9 lbs. 2 oz. max.

Starting Torque: 6 oz-in

Running Torque: 4.5 oz-in

Inertia: 9120 gram cm² max.

Radial Load: 25 lbs. overhung

Axial Load: 25 lbs.

Electrical Connections/ Terminations

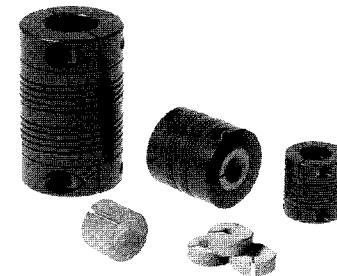
For variable reluctance units with 1/2" NPT conduit entrance, there are two screw terminals (four screw terminals for dual isolated output units). Terminations are not polarity sensitive. Either terminal may be used for signal, and the other terminal for signal common.

Wire with a 2 conductor twisted pair cable with shield such as Belden 8760, Model No. 16002160021.

Function	Pin
+4.5 VDC to +15 VDC	A
Signal Out	B
No Connection	C
Common	D
Shield	E

Note: Cut off shield and insulate it from the junction box. Connect shield to building ground at other end of cable.

ARE YOU AWARE THAT WE NOW SELL DYNAPAR BRAND COUPLINGS?



Our CPL Series of flexible shaft couplings ensure long encoder life by restricting transfer of mechanical, thermal, and electrical stress.

A full range of models is available. Each is designed to match specific encoders, and is supplied with input-shaft size adaptors.

Contact your local Danaher Controls Sales Office or our Customer Service Department 800.873.8731 for more information.

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

IMPORTANT ENCODER INSTALLATION INFORMATION

Mounting the Encoder: The encoder should be mounted such that its shaft is in close as possible alignment with the axis of the driving machine or motor shaft. The two shafts should then be joined using a suitable, instrument grade, flexible shaft coupling. Encoders that feature an integral coupling or a flexible mounting flange do not require an external coupling device.

CAUTION: Rigidly coupling the encoder shaft to the driving shaft will cause failure of the encoder's or driving shaft's bearings.

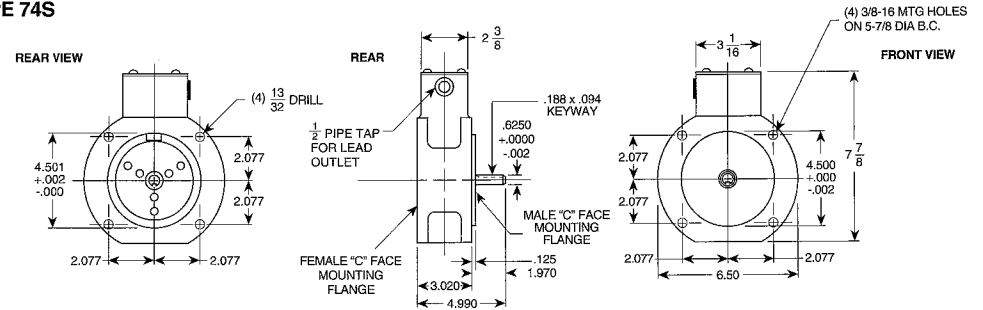
Important Wiring Instructions: Use of shielded cable is recommended for all incremental encoder installations. The shield should be connected to signal-ground at the input device only. **Connecting the shield at both ends can cause grounding problems that degrade system performance.** If possible, run the encoder cable through a dedicated conduit (not shared with other wiring). Use of conduit will protect the cable from physical damage and provide a degree of electrical isolation. Do not run the cable in close proximity to other conductors that carry current to reactive loads such as motors, motor starters, contactors, solenoids, etc. This practice can induce electrical transients in the encoder cable, potentially interfering with reliable data transmission.

Refer to Electrical Connections table for wiring information. To avoid possible damage, do not connect or disconnect the encoder connector or wiring while power is applied to the system.

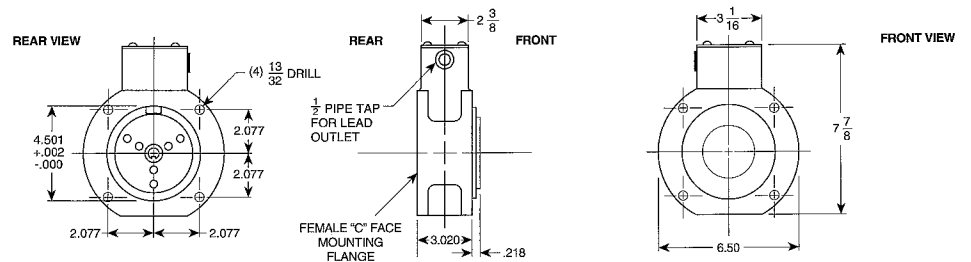
CAUTION: Unused encoder signal wires must be individually insulated and under no circumstances be in contact with ground, voltage sources, or other signal lines.

Approximate Dimensions (in inches)

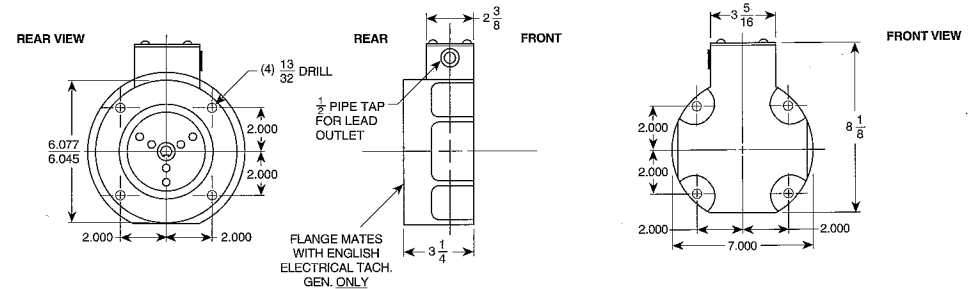
TYPE 74S



TYPE 74C



TYPE 74E



Ordering Information

Code 1: Model	Code 2: Housing	Code 3: Probe Type	Code 4: Wiring	Code 5: PPR
74	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
74 Unidirectional Encoder, Hollow or 5/8" Shaft	E English Electric Mount C NEMA 56C, Rear Only S NEMA 56C, Front or Rear	R Variable Reluctance L Variable Reluctance with Dual Isolated Outputs Z Zero-Speed, Magneto-Resistive	Available when Code 3 is R or L: T Junction Box with Screw Terminals Available when Code 3 is Z: M MS Connector	Available when Code 3 is R, L or Z: 060 120 240 Available when Code 3 is R or L: 360