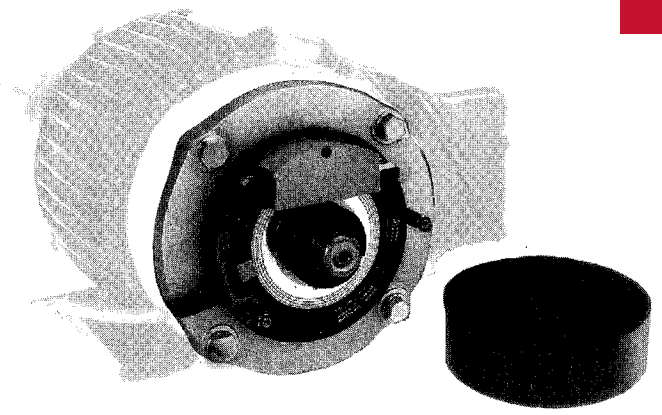


Shown motor mounted using 56C-Face adapter

- ***Direct mounting to AC or DC motors – no coupling or mounting bracket needed***
- ***No bearings to wear***
- ***Compact design – less than 2" Deep***
- ***Mill Duty: Metal Disc to resist breakage; Operates to 120°C***
- ***Sealed Design (NEMA4/IP66)***

The Series 90 Rotopulser® is an advanced, modular encoder that can satisfy the most demanding industrial applications. This motor–mounted device provides speed and position information or drive feedback in a package that reduces the depth beyond the motor by several inches compared to the traditional encoder/coupling/mounting bracket combination. In addition, reliability is increased and costs are reduced by eliminating maintenance and wear items such as the mechanical coupling and shaft bearings.

The advanced mounting design makes installation fast and uncomplicated. The Series 90 Rotopulser® mounts directly onto the motor or adapter plate using industry standard bolt hole patterns. The encoder is pre–aligned and needs no alignment tools or procedures; electrical output is uneffected by axial end play. Its high temperature capability makes it suitable for a variety of applications with DC and AC motor drives requiring precision and durability. **It is especially tailored to provide feedback to the new generation of high performance AC vector drives.**

The Series 90 Rotopulser® is a state–of–the–art design combining chip–on–board, surface mount devices and advanced opto–electronics. Full differential line driver outputs provide maximum signal performance and noise immunity in the toughest electrical environments.

Typical Applications

- Drive Feedback
- Machine tools
- Robotics
- Material handling equipment

Mechanical and Environmental Features

- 3.750" dia. Bolt Circle mounting base; optional 4-1/2" and 8-1/2" C-Face adapters
- Fast over-the-shaft mounting; no flexible coupling required
- **Uneffected by axial end play up to ±0.045"**
- Up to 20,000 RPM
- Pre–aligned for quick and easy installation
- Up to 120°C operating temperature
- Non-magnetic Stainless Steel code disc
- Sealed enclosure and base mount; optional shaft seal

Electrical Features

- Choice of 5, 12, or 15 VDC operating voltage; over-voltage and reverse polarity protected
- High electronic operating speeds (up to 120 kHz data and 100 kHz for marker pulse)
- Factory set symmetry and index pulse duration
- No field potentiometer adjustments
- Standard differential line driver outputs; short circuit protected

Mechanical Interface Application Considerations

- Shaft length: 1.25" min., 1.50" max. from mounting surface; 1.87" min. to 2.05" max. when used with C-Face adapters
- Shaft run-out: (not critical mechanically; will have an effect on accuracy — e.g. .001" T.I.R. adds approximately 1/8 cycle error, or 22° electrical)
- Mounting surface perpendicular to shaft within 0.030" T.I.R.
- Shaft diameter tolerance: +0 / –.002"
- Motor should have side exit grease reliefs so as to not contaminate the encoder
- Mounting surface flat within 0.010"; surface finish of 400 µinches required for proper base plate sealing

SPECIFICATIONS

Electrical

Code: Incremental
Pulses per Revolution: 1024 standard; consult factory for other available PPRs
Output Signal: Two channel quadrature with zero reference
Differential Line Driver: 40 mA sink/source; capable of peak currents up to 1 Amp
Quadrature Phasing: 90° ± 18°
Phasing Sense: A leads B for CW rotation as viewed from the clamp end of the encoder hub
Symmetry: 180° ± 22°
Zero Reference: 180° ± 30° (Gated with B channel low)
Input: 5, 12 or 15 VDC ±5% at 150 mA max.
Frequency Response: 120 kHz
Illumination Source: Solid state LED
Cable: 5 twisted pairs, shielded, 30" length standard

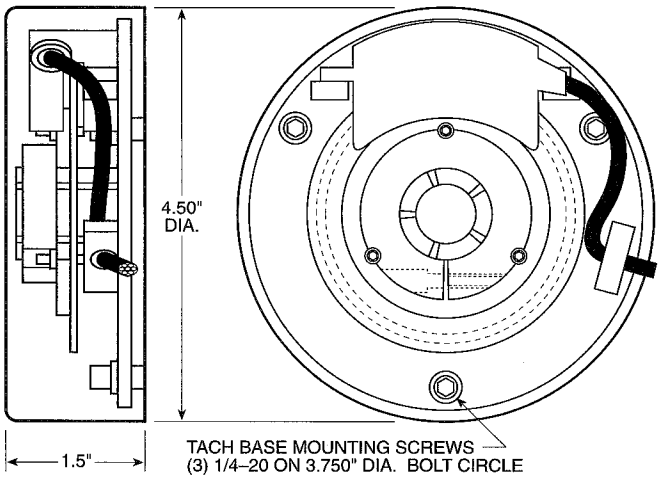
Mechanical

Rotation: CW and CCW
Hub I.D.: Up to 1.000 inch (See model no. designations)
Base and Cover Material: Anodized Aluminum
Moment of Inertia: 1.0 x 10^{-4} in–lbs–sec^2 max.
Disc Material: 300 Series Stainless Steel
Acceleration: 12,000 rad/sec^2 max.
Velocity: 20,000 RPM max.
Net Weight: 17 oz. (30 inch cable length, no C-Face adapter)

Environmental

Operating Temperature: –20° to +120°C
Storage Temperature: –40° to +80°C
Relative Humidity: to 90% non-condensing
Enclosure Rating: Environmentally sealed to solid and liquid contamination when installed with gasket and cover; NEMA4/IP66 when used with C-Face adapters with optional Viton® shaft seal

Approximate Dimensions



Electrical Connections

Cable Terminations	
Wire Color	**Function**
RED of RED/WHT pair	Signal A
WHT of RED/WHT pair	Signal $\overline{A}$
ORG of ORG/WHT pair	Signal B
WHT of ORG/WHT pair	Signal $\overline{B}$
BRN of BRN/WHT pair	Signal Z
WHT of BRN/WHT pair	Signal $\overline{Z}$
WHT of BLK/WHT pair	Supply
BLK of BLK/WHT pair	Common
SILVER (bare)	Shield

Ordering Information

To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: Pulses/Rev	Code 3: Mechanical	Code 4: Electrical	Code 5: Termination	Code 6: Misc	
91	☐☐☐☐	☐	☐	☐	☐	**000**
91 High Performance, Motor Mount	**0240** 240 PPR **0600** 600 PPR **1024** 1024 PPR	**1** 1/2" Hub **2** 5/8" Hub **3** 3/4" Hub **4** 7/8" Hub **5** 1" Hub **6** 14mm Hub **7** 24mm Hub **8** 19mm Hub	**1** 5 VDC **2** 12 VDC **3** 15 VDC	**1** 6" Cable **2** 18" Cable **3** 30" Cable **4** 72" Cable	**N** Near Fixed Bearing **F** Far Fixed Bearing	

Accessory Number	Adapter Options
☐☐☐☐☐☐	☐
107612 Removal & Regapping Kit **107621** NEMA 4-1/2" C-Face Adapter **107625** NEMA 8-1/2" C- Face Adapter	blank no shaft seal **-1** 1/2" Shaft Seal **-2** 5/8" Shaft Seal **-3** 3/4" Shaft Seal **-4** 7/8" Shaft Seal **-5** 1" Shaft Seal **-6** 14mm Shaft Seal **-7** 24mm Shaft Seal **-8** 19mm Shaft Seal