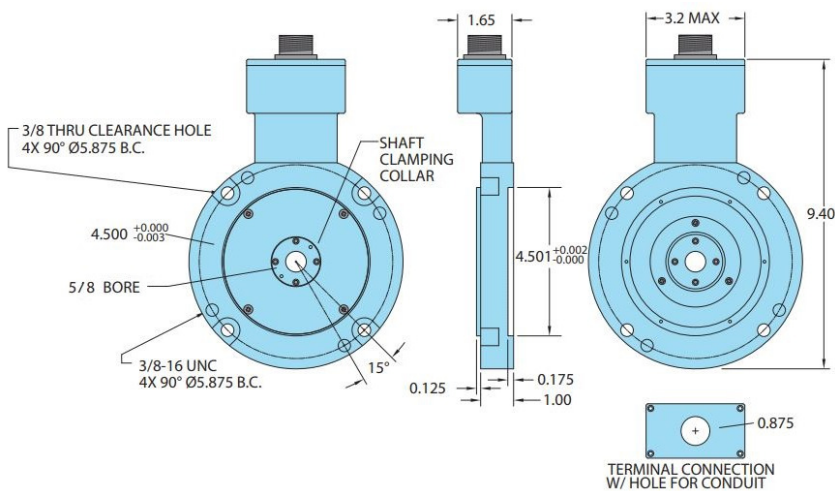
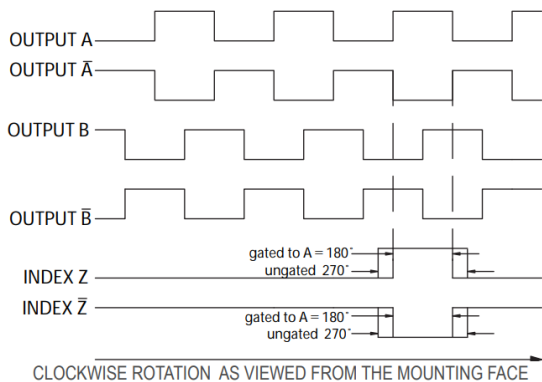


Model TAC017-XXX C-face encoder is a rugged, high resolution encoder designed to mount directly on NEMA C-face motors. Both sides of the encoder are C-face mounts, allowing additional C-face devices to be mounted to this encoder. Unlike many C-face kit type encoders, model TAC017-XXX contains precision bearings and an internal flex mount, virtually eliminating encoder failures and inaccuracies induced by motor shaft run-out or axial endplay. The advanced Opti-ASIC design provides advanced noise immunity necessary for many industrial applications. This encoder is ideal for applications using induction motors and flux vector control. The model TAC017-XXX provides speed and position information for drive feedback in a slim profile – only 0.975" thick. The Thru-Bore design allows fast and simple mounting of the encoder directly to the accessory shaft or to the drive shaft of the motor, using the standard motor face (NEMA 56C). The tough, all metal housing resist the vibration and hazards of an industrial environment. The -000 model does not include the Z channel while the -001 does.



Specifications

Electrical

Input Voltage

- 4.75 to 28 VDC max (<70°C)
- 4.75 to 24 VDC max (70°C-100°C)

Input Current: 100 mA max with no output load
Input Ripple: 100 mV peak-to-peak at 0 to 100 kHz

Output Format
 Incremental – Two square waves in quadrature with channel A leading B for clockwise shaft rotation, as viewed from the mounting face. See Waveform Diagrams.

Output Type
 Line Driver – 20 mA max per channel (Meets RS 422 at 5 VDC supply)

Index: Once per revolution (-001 model only). Gated to output A. See Waveform Diagrams.

Max Frequency: 200 kHz

Electrical Protection
 Reverse voltage and output short circuit protected.
 NOTE: Sustained reverse voltage may result in permanent damage.

Noise Immunity
 Tested to BS EN61000-4-2; IEC801-3; BS EN61000-4-4; DENV 50141; DENV 50204; BS EN55022 (with European compliance option); BS EN61000-6-2; BS EN50081-2

Quadrature: 67.5° electrical or better is typical
Edge Separation: 54° electrical minimum (>99°C)
Rise Time: Less than 1 microsecond

Mechanical

Mounting: NEMA 56C-184C
Max Shaft Speed: 6000 RPM
Bore Diameter: 5/8"
Bore Tolerance: +0.0015"/-0.000"
User Shaft Tolerances:

- Radial Runout: 0.005"
- Axial Endplay: +0.050"

Moment of Inertia: 3.3 x 10⁻³ oz-in-sec² typical
Housing: All metal construction
Weight: 3.00 lb (typical)

Environmental

Operating Temperature:

- 0-70°C (5-28VDC)
- 0-100°C (5-24VDC)

Storage Temperature: -25° to 100°C
Humidity: 98% RH non-condensing
Vibration: 10 g @ 58 to 500 Hz
Shock: 50 g @ 11 ms duration
Sealing: IP50

PIN	FUNCTION	COLOR
1	+VDC	Red
2	Common	Black
3	Data A	White
4	Data A'	Brown
5	Data B	Blue
6	Data B'	Violet
7	Index Z	Orange
8	Index Z'	Yellow
9	Shield	Bare

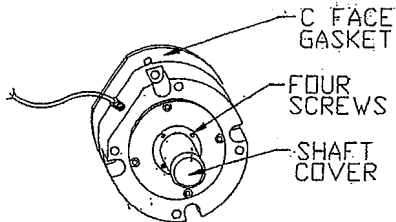
Mounting Instructions

After carefully unpacking the unit, inspect and ensure that the motor shaft is the correct size and free of all burrs and aberrations.

STEP 1

(This step for housing with cover installed)

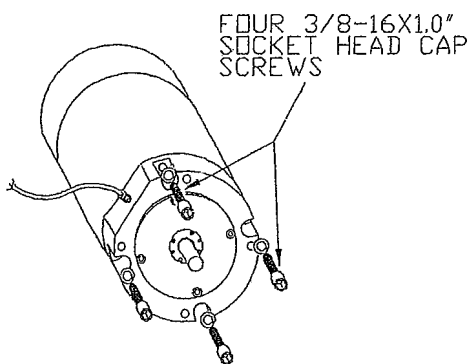
1. Remove the four screws securing the shaft cover.
2. Remove the shaft cover and set aside.
3. If C-face gaskets are being used for sealing, install a gasket on the motor c-face.



STEP 2

CAUTION: Do not tighten the 4-40 Allen head screws in the shaft locking collar when the encoder is not installed on a shaft or the clamping collar could be damaged.

1. Slide the encoder over the motor shaft. **DO NOT USE UNDUE FORCE:** There may be a rubber O-ring in the locking collar which will provide a small amount of resistance as it engages the motor shaft. If the encoder does not slide on easily, SEE NOTE 1 BELOW.
2. Install the four 3/8" - 16 x 1.0" socket head cap screws with locking washers through the holes in the encoder C-face and tighten securely to the motor.



REMOVAL

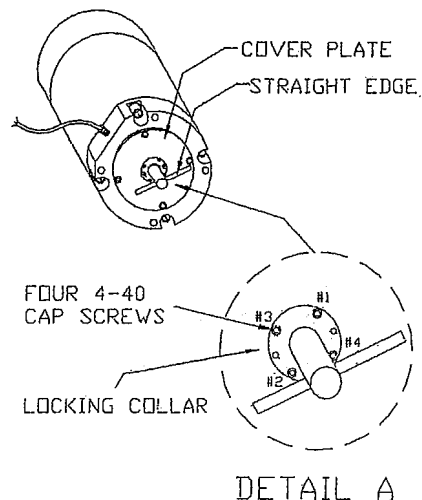
1. If you have a housing with shaft cover, remove the four screws holding the shaft cover and remove the cap.
2. Loosen (do not remove) the four 4-40 socket head screws in the front of the locking collar. Then remove the 3/8" x 16 screws securing the encoder to the motor and slide the encoder off.

STEP 3

Position a straight edge across the front of the encoder cover plate and shaft locking collar. Make sure the surface of the shaft locking collar is flush with the surface of the encoder cover plate. This is important because it positions the encoder's internal flex plate in the center position so it can accommodate the motor's axial endplay in both directions.

STEP 4

1. Prevent the motor shaft from turning (See NOTE 2 for additional information) and tighten the four 4-40 socket head cap screws in the locking collar evenly in any crossing pattern such as 1 to 2 and 3 to 4 (See DETAIL A).
2. Make sure the screws are securely tightened and the front of the locking collar remains flush with the encoder cover plate.
3. If the collar does not turn true when the motor is rotated, loosen the four 4-40 screws and repeat the procedure.



NOTE 1: Make sure the 4-40 socket head screws in the front of the encoder locking collar (same side as the metal cover plate) are loose and the collar is not cocked or jammed. Clean the shaft of any burrs using fine crocus cloth.

The O-ring in the encoder locking collar may need a small amount of additional lubrication.

NOTE 2: When tightening the screws in the locking collar, avoid holding the motor shaft with anything that may scar or burr the shaft. Installing temporary screws in the two tapped 4-40 holes in the shaft locking collar may help position the collar axially on the shaft and provide a means to keep the shaft from rotating while the four locking collar screws are tightened.