NorthStar
SLIM Tach SL56
6 Easy Steps to Installation
Slim TACH SL 56/85

- Designed for heavy duty industrial applications
- Thin, bearingless construction ideal for space constraints
- Designed for 56/140 & 180 NEMA Frame Motor Flanges
- Up to 1024 base Pulse Count
- Utter Simplicity for Excellent Reliability and Quick Installation
- Large Array of Available Shaft Sizes
- Choice of Most Major Motor OEM’s
- A and B channels with optional marker (Z) pulse.
- Operating Temperature Range: -40 to 90 C (Optional 120 C)

SLIM Tach® SL56
Step 1 Inspection and....

- Inspect shipping container for damage.
- Verify all components, accessories and manual were received.
Step 1  Unpacking

- Lay out parts.
- Become familiar with instruction manual, exploded view of product and any warnings or cautions.
Step 2  Preparation

- Clean motor face, outer rim-rabbit surface and shaft of paint, grease, dirt and other debris.
- Also ensure that mating surfaces or shaft have not been damaged.
- Apply a thin coat of corrosion inhibitor or oil to motor face and shaft to aid assembly and provide corrosion protection.
Step 3 Encoder Frame Installation

- Orient the encoder frame so that the 4.5 inch I.D. surface fits over the 4.5 inch C flange. (Encapsulated “large blue potted” side toward motor)
- Mount encoder frame onto the motor flange.
- Insert (4) 3/8 x 16 UNC socket head caps screws through the encoder frame and into the motor frame.

Using a 5/16 hex wrench, tighten to a nominal 25 Ft-lbs.
Step 4  Inspect & Confirm wheel type

J Wheel (smaller bores)
- J04 – 0.625” shaft
- J05 – 0.875” shaft
- J06 – 1.000” shaft
- J07 – 1.125” shaft
- J08 – 1.250” shaft

K Wheel (larger bores)
- K09 – 1.375” shaft
- K10 – 1.500” shaft
- K11 – 1.625” shaft
- K12 – 1.750” shaft
- K13 – 1.875” shaft
- K14 – 2.000” shaft
- K15 – 2.125” shaft
- K16 – 2.250” shaft
- K17 – 2.375” shaft
- K18 – 2.500” shaft
- K19 – 2.875” shaft
Step 5 Install Wheel - (J) “Spoke” Style

- Slide pulse wheel onto shaft, letter “Z” or label “THIS SIDE OUT” being visible.
- Position the wheel so that it is flush with the inner machined recess in the encoder frame. This properly centers the wheel under the sensor.
- Using a straight edge, align two surfaces across the wheel to within +/- 0.010 inch. A quick check can be made with your thumb, to feel that the two surfaces are flush.
- Using the provided 9/64 inch hex wrench, tighten the socket head cap screw to a nominal 30 in-lbs.
Step 5  Check Installation

- Verify that the wheel does not have excess wobble greater than 0.010 inch.
- Rotate the motor shaft by hand to ensure it rotates freely and does not touch the encoder frame at any time.
- If everything is mechanically correct, the resulting sensor to pulse wheel air gap will be a nominal 0.011 inch.
Step 5 Install Wheel – (K) “Clamp” Style

Parts 1-4

- The Clamp Style Wheel consists of three parts:
  1. Pulse Wheel   2. Wire Ring   3. Clamping Plate
Step 5

Part 1 of Clamp Style Wheel Installation

- Slide the clamping plate onto the motor shaft. Which side faces out does not matter.
Step 5

Part 2 of Clamp Style Wheel Installation

- Slide the wire ring onto the motor shaft, until it is seated against the clamping plate.
- Make sure the wire ring is snug against the motor shaft.
Step 5

Part 3 of Clamp Style Wheel Installation

- Slide the pulse wheel (hub out) onto the motor shaft, until it is in contact with the wire ring and clamping plate.
- Align the unthreaded holes on the wheel with the threaded holes in the clamping plate, then insert and snug screws.
Step 5

• Part 4 of Clamp Style Wheel Installation

• Position the wheel so that it is flush with the inner machined recess in the encoder frame. This properly centers the wheel under the sensor.
• Using a straight edge, align the two surfaces across the wheel to within +/- 0.010 inch. A quick check can be made with your thumb, to feel that the two surfaces are flush.
• Tighten the clamping screws in a star pattern, to 30 inch-pounds.
Step 6  Secure Encoder Cover

- Position the encoder cover (Thru-hole for Clamp Style Wheel) over the mounted encoder frame.
- Insert and tighten (4) encoder cover Phillips head screws.
- This completes the mechanical mounting of the unit.
Installed SLIM Tach SL56