

Model TI-7000 Servo Feedback Field Tester



FEATURES

- Handheld unit with display and keypad, perfect for field service work at customer site – no computer needed
- Quickly test feedback and check or set feedback alignment for brushless permanent magnet servomotors
- Checkout quadrature incremental encoders, serial encoders, resolvers, and Hall effects without an oscilloscope
- Display position counts, phase, line states, commutation angle, and test results
- Basic unit includes incremental encoder & Hall support – resolver, Fanuc serial, and other serial available as options
- Cable compatible with TI-5000, TI-3000, & TI-5250
- Optional carrying case for cables and accessories
- One year limited warranty

GENERAL

Your TI-7000 is your competitive advantage by giving your servo tech the support he needs in your shop or on the road. Quickly checkout:

- Incremental quadrature pulse encoders
- Serial encoders
- Resolvers
- Hall effect sensor commutation signals
- Verify or set feedback alignment

The TI-7000 uses a built-in keypad and display for operator interface, so no PC is needed. Equipment under test connects using a removable 14 pin terminal block. The equipment under test may be powered by the TI-7000R 5V source or an external source.

PART OF THE FAMILY

The TI-7000 fits right in working independently or in conjunction with your other equipment from the Mitchell test equipment family. Use the TI-5000 for big display results on the bench and the TI-7000 for field service or shop work (and as a backup to your TI-5000). Test run motors with the TI-3000 on the bench or in the field. Cables that you now use with the TI-5000 or TI-3000 can be used with the TI-7000.

FEEDBACK ALIGNMENT

The TI-7000 makes it simple to check feedback alignment in the field. Too often servomotor users replace feedback devices without realizing the importance of correct alignment. Now you can fix these problems right at the machine and get them up and running. Downtime is expensive, and you can help minimize by having the right tools to solve the problem right at the source. Also use the TI-7000 to get alignment from a good spare at your customer's site.

QUADRATURE PULSE ENCODERS

The TI-7000 accepts encoders with single ended or differential output lines, with or without an index pulse (although some tests require an index pulse). Count, count rate, and line states are displayed. If commutation signals are available, their states are displayed. Testing of the encoder outputs includes measuring counts between index pulses and measuring three different phase and symmetry angles for the A and B pulses.

SERIAL ENCODERS

The input functions and testing for the serial encoders are very similar to the quadrature encoders. The user enters the model of the encoder in use, and the TI-7000 displays the pertinent information. In addition to the count, other important information contained in the data stream is displayed for the operator. Consult factory or representative for models currently supported.

SINE WAVE ENCODERS

With the TI-5101 Sine Wave Interface Board (included), the TI-7000 supports 1V p-p sine wave output encoders, such as Heidenhain products. The TI-5101 converts the sine wave output levels to 5V level pulses which can be checked by the TI-7000 just like other quadrature pulse encoders. In addition to the normal A, B, and Z encoder outputs, it can accept C and D outputs which provide sine and cosine signals of one period per revolution. The C and D levels are displayed as well as the angle, from 0 - 360 degrees, represented by these levels.

RESOLVER CHECKOUT

The TI-7000 provides support for resolver checkout using built-in resolver circuitry. This new DSP based resolver support represents an advance resolver checkout capability.

The unit generates its own resolver excitation, and both frequency and level are adjustable from the keypad by the operator. The frequency is adjustable from 1,000 Hz. to 20,000 Hz. A built-in frequency counter provides a reading of the exact frequency. The excitation level is adjustable from 0 to 8 volts peak (16V peak to peak, 5.6V RMS).

Convenient test points on a breakout board allow easy connection to an oscilloscope. The resolver rotation information is displayed as angle in degrees (to .1 degree). The operator is warned if the returned sine/cosine signal levels are too low or missing.

SYSTEM SPECIFICATIONS

QUADRATURE PULSE ENCODERS

INPUT -
Rate Up to 1,000,000 CPS (quad)
Max count +/- 2,147,483,647 (quad)

INCREMENTAL COUNT TEST -
Rate Up to 1,000,000 CPS (quad)

PHASE -
Rate 25 CPS to 400,000 CPS
Resolution 1 degree

SERIAL ENCODERS

Rate Varies with encoder type

RESOLVERS

Excitation 1,000 - 20,000 Hz.
Speed Up to 3,600 RPM
Angle resol. To .1 degree

ORDERING INFORMATION

TI-7000Q Quadrature incremental encoder and Hall effect support.
Option R Add resolver support
Option F Add Fanuc serial support
Option M Add Mitsubishi serial support

AUTHORIZED REPRESENTATIVE: