RTSX-A TORQUE & ANGLE SENSOR OPERATION INSTRUCTIONS
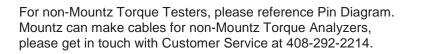
Rev 3.0 (8/30/2021)
Rotary torque sensors are utilized for in-line torque measurement applications. These sensors are ideal for dynamic torque measurement application as it allows you to record the actual torque being applied on the fastening application.

RTSX-A Cabling/Connecting

Attach the appropriate cable (sold separately) for connecting the RTSX-A with a Mountz Torque Tester:

Mountz Torque Tester	Cable Item #
TorqueLab	065157
TorqueMate® Plus	065151
LTT or PTT	072000

For non-Mountz Torque Testers, please reference Pin Diagram. Mountz can make cables for non-Mountz Torque Analyzers, please get in touch with Customer Service at 408-292-2214.

10-Pin Connection

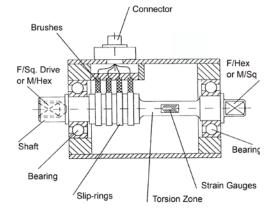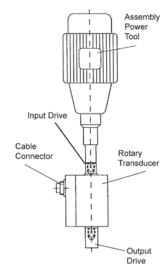**Torque Output**
A = Bridge Voltage (+)
B = Bridge Voltage (-)
C = Measured Signal (+)
D = Measured Signal (-)
E = Ground (Angle Voltage)
F = +5V (Angle Voltage)

Angle Output
G = Channel A (Load)
H = Channel B (Lag)
I = N/A
K = 100% Control (Full Scale)

Operating RTSX-A

Measuring the torque output of a tool with a rotary torque sensor allows you to monitor torque being applied from the tool to fastener or bolt and analyze the efficiency of the fastening process. The torque sensor is ideal for torque-auditing or torque verification programs. The instrument is attached to the power tool's drive without interfering with the tool's ability to fasten a screw or bolt.

Connect the power tool to the "input drive" side of the RTSX-A. Connect bit and/or adapter to "output drive" side. Once the RTSX-A is connected with a Mountz torque tester, follow the instructions in the torque tester manual for accessing external transducers.

Using Power Tools

Make sure the power tool is within the torque range of the RTSX-A model. If the tool is under the torque range, then the accuracy may not be reliable. If the tool is over the torque range, you may over-torque the RTSX-A and damage the transducer. You may require adapters for calibration or testing. Always make certain adapters are as short as possible and fit properly, with little "play."

Note: Not recommended for Impact Wrenches

Using Hand Tools

Make sure the hand tool is within the torque range of the RTSX-A model. If the tool is under the torque range, then the accuracy may not be reliable. If the tool is over the torque range, you may over-torque the RTSX-A and damage the transducer. You may require adapters for calibration or testing. Always make certain adapters are as short as possible and fit properly, with little "play."

Calibration Procedure

1. Attach the RTSX-A securely to a device that keeps the Rotary torque sensor in a stable position for the calibration process.
2. Connect the RTSX-A to a torque tester/ display. Review the torque range of the torque sensor and select the appropriate measurement units.
3. Determine the type of calibration to be performed.
   Calibration at 3 Pts. Test at 10%, 50%, and 100 of Full Scale.
   Calibration at 6 Pts. Test at 10%, 20%, 40%, 60% 80% and 100 of Full Scale.
   Direction Clockwise and/or Counter Clockwise
4. Select the appropriate Calibration Arm or Wheel. Attach it to the output drive of the RTSX-A.
5. Allow the device to warm up the required 20 minutes before starting the calibration process.
6. Follow the loading steps as outline in ISO6789:2017 part 2 annex C or ASME B107-300. In general, these are
   a. Pre-load 100% in the CW direction for at least 30 seconds, no measurement is required
   b. Unload and allow the unit to relax for at least 30 seconds.
   c. Load at 10% (or lowest customer-requested level > 10%) in the CW direction. Wait at least 30 seconds before taking a measurement.
   d. Unload the device and allow it to relax for at least 30 seconds
   e. Duplicate these steps for 50 and 100% load points allowing at least 30 seconds load and 30 seconds relax time for each load level.
   f. Duplicate steps a through d in the counterclockwise direction.

7. The specific and consistent load and relax times are essential for producing repeatable calibrations. 30-second load and unload times are the minimum recommended timing. If longer timing is used, it should be the same timing in all steps.
8. Repeat the test described above and record 5 readings from the test device at each point. Compile all necessary details to generate a test report.
9. Remove the old calibration label and place the new label on the torque sensor.

Maintenance Procedure

1. Recommend cleaning cycle is approximately 1,000,000 Revolutions.
2. Loosen the 4 fixing screw and remove the cover plate.

3. Use a soft linen cloth, a fine hair brush or oil-free compressed air to clean the dust from the slip-rings and the spaces between them. Carefully clean the brushes and the plastic part with the spring using a hair brush or oil-free compressed air. Also clean the connector.
4. Measure the brush thickness, it should be more that 0.5 mm. New brushes can only be fitted at the manufacturer.
5. Replace the cover plate carefully and re-tighten the fixing screws.
6. The Rotary Torque Sensor should be recalibrated every year.

Mountz Calibration and Repair Services

Mountz Inc. features an experienced calibration and repair staff. Our trained technicians can calibrate and repair almost any tool. Mountz provides rapid service with quality that you can trust as we offer two state-of-the-art calibration labs and repair facilities that can calibrate up to 20,000 lbf.ft.

About Mountz

Mountz, The Torque Tool Specialists®, has been a leader in the torque tool industry for more than 50 years. Engineered in the Silicon Valley and serving the globe, Mountz focuses on delivering high-quality torque products, services, and solutions to ensure customers can always proceed with confidence. We are committed to forging a safer world through precision and accuracy and by innovating every day.

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