

## SDX Torque Sensor Operation Instructions

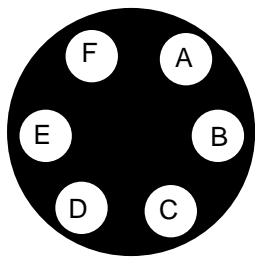
Rev 2.2 (3/23/2017)

### SDX Application Examples

The SDX is a torque screwdriver sensor designed for auditing or tightening fasteners to a specified torque when mated with a torque analyzer.



### SDX Wiring Diagram



#### Wiring Code

A =	Signal (+)
B =	Signal (-)
C =	Excitation (-)
D =	Excitation (+)
E =	N/A
F =	N/A

### Operating SDX

Once the SDX is connected to a Torque Analyzer, follow the instructions in the Torque Analyzer manual for accessing external transducers.

Make sure the application is within the torque range of the SDX model. If the application is under the torque range, then the accuracy may not be reliable. If the application is over the torque range, then you may overtorque the SDX and damage the sensor.

Place a bit or adapter into the drive of the screwdriver and then apply or measure torque. You may require adapters for the application or for calibration. Always make certain adapters are as short as possible and fit properly, with little "play."



### Torque Testing & Auditing Methods

There are three common methods that have been established to provide an accurate reference to the applied torque.

- 1) First Movement Test - Once the fastener has been tightened, use the SDX. Mark the tightened fastener and surrounding application. In the tightening direction, begin to slowly apply force to the tool until the first movement in the fastener is noted. The reading recorded is a good indication of the original torque applied to the joint. This is the best way to determine residual torque.
- 2) Loosening Test - This is a similar process to the first movement test described above, except instead of the tightening the fastener, the torque is applied in the direction that loosens the fastener. At the point the fastener breaks loose, the torque reading is recorded. The torque value to loosen the fastener is the approximate torque that was applied to the joint.
- 3) Marking Test - Once the fastener tightened, mark clearly the surface of the fastener, nut or bolt and continuing the mark onto the surface being clamped for reference. This time loosen the fastener and retighten until the marks on both application and fastener are aligned. The torque required to return the fastener to its original location is the reference to the original torque applied to the fastener.

What is Residual Torque? It is the amount of tension that remains in a joint after fastening a threaded fastener.



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## Calibration Procedures

1. Attach the SDX securely to a special fixture device.
2. Connect the SDX to a torque analyzer/display. Review the torque range of the torque sensor and select the appropriate measurement units.
3. Determine 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 and attach it.
5. Gently connect the Hanger to the Calibration Arm or wheel.
6. Load 3 times to minimum 80% FS in direction of operation and reset to zero after loading.
7. Apply series of increasing torques in direction of operation starting from the lowest test point.
8. Record readings from the test device at each test point prior to performing any adjustments.
9. Repeat steps 6-8 in the opposite direction (if required).
10. Perform calibration adjustments. Repeat test as described above until readings at all test points are within tolerances.
11. Repeat test as described above and record 5 readings from test device at each test point. Compile all necessary details to generate test report.
12. Remove old calibration label and place new label on transducer.

## Mountz Calibration & Repair Services

Mountz Inc. features an experienced calibration and repair staff. Our trained technicians can calibrate and repair most any tool. Mountz provides rapid service with quality that you can trust as we offer two state-of-the-art calibration lab and repair facilities that can calibrate up to 20,000 lbf.ft. We perform calibrations in accordance with ANSI/NCSSL-Z540.

Since 1965, Mountz Inc. has proven its in-depth knowledge of torque and torque solutions by consistently developing, producing, marketing and servicing highly sophisticated, cutting-edge tools. Mountz Inc. is known to the industry as the premier torque tool supplier.

## Tool Service & Repair Capability

- Torque Wrench Calibration: Click Wrench, Dial Torque Wrench, Beam Wrench, Cam-Over & Break-Over Wrench
- Torque Screwdrivers: Dial, Micrometer, Preset & Adjustable
- Torque Analyzers/Sensors: All brands
- Electric Screwdrivers: All brands
- Air Tools: All brands  
Impact Wrenches, Drills, Pulse Tools, Grinders, Percussive Tools, Air Screwdrivers, Nutrunners, DC Controlled Nutrunners
- Torque Multipliers: All brands

### Mountz Service Locations

#### **Eastern Service Center**

19051 Underwood Rd.

Foley, AL 36535

Phone: (251) 943-4125

Fax: (251) 943-4979

#### **Western Service Center**

1080 N.11th Street

San Jose, CA 95112

Phone: (408) 292-2214

Fax: (408) 292-2733

[www.mountztorque.com](http://www.mountztorque.com)  
[sales@mountztorque.com](mailto:sales@mountztorque.com)