

# Aircraft Screwdriver Fastening Control Torque Transducer

Industry: Test and Measurement

## Summary

### Customer Challenge

An airplane manufacturer needs a solution where they can control the torque when fastening screws on their airplane models. They do not want to create any damage to materials, or apply too much torque when plane components are being fastened together.

### Interface Solution

Interface's Model T15 Hex Drive Rotary Torque Transducer can be attached to the fastening work bench, measuring and recording torque, rotational speed, and angle of the screwdriver. The LWCF Clamping Force Load Cell is installed, measuring the forces applied on the screw being fastened. Results are sent to the SI-USB4 4-channel USB Interface Module, which is connected to the customer's PC or laptop where data is logged, graphed, and displayed.

### Results

The airplane manufacturer was able to calibrate their screwdriver by measuring its torque, rotational speed, and angle, when attaching materials together for their airplane. They were also able to measure the forces being applied to the screw, to ensure it was not applying too much torque to the components.

## Materials

- T15 Hex Drive Rotary Torque Transducer
- LWCF Clamping Force Load Cell
- SI-USB4 4-channel USB Interface Module
- Customer PC or Laptop

## How It Works

1. The T15 Hex Drive Rotary Torque Transducer is attached to the screwdriver fastening bench.
2. The LWCF Clamping Force Load Cell is placed beneath the bolt head.
3. The T15 Hex Drive Rotary Torque Transducer measures the screwdrivers torque, rotational speed, and angle, in order for the customer to determine the right amount of torque needed to be applied to the screw to prevent any damage to materials being fastened together.
4. The LWCF Clamping Force Load Cell measures the forces applied to the screw, so the customer can determine the maximum torque it can take.
5. The measurements and results are sent to the SI-USB4 4-Channel USB Interface Module, where the customer can record the results when connected to their PC or laptop.

