

# Friction Testing Multi-Axis

Industry: Industrial Automation, Test and Measurement

## Summary

### Customer Challenge

A testing laboratory was looking to replace two single axis load cells used in their friction testing machine with one sensor that could measure force on the x, y, and z axis simultaneously.

### Interface Solution

An Interface Model 3A60 3-Axis load cell was installed on their existing machine with an Interface BSC4D-USB Multi-Channel PC Interface hooked directly to a PC laptop to monitor and log the data in real time.

### Results

The testing laboratory was able to simplify their sensor set-up and improve their data collection, creating more value for their end customer.

## Materials

- 3A60 3-Axis Load Cell
- BSC4D-USB Multi-Channel PC Interface
- Module which includes BlueDAQ – display, graphing, and logging software.
- Appropriate cabling.

## How It Works

1. The 3-Axis load cell is installed between the arm of the friction testing machine and the test specimen.
2. The BSC4D is installed between the 3-Axis load cell and the PC laptop.
3. Weights are placed on the top of the arm to create a down force.
4. The machine arm drags the test specimen across the material resting on the bed.
5. The 3-Axis load cell measures the forward/back force (x), side to side force (y) and down force (z) being applied to the test specimen.
6. The sensor's output is fed to the BSC4D and to the PC laptop where it is displayed using the included software.

### Friction Testing Machine

