

Continuum Robot Testing

Multi-Axis

Industry: Industrial Automation, Medical and Healthcare

Summary

Customer Challenge

A continuum robot is a robotic arm that has a continuously curving design, that acts similarly to the trunk of an elephant. It is very maneuverable, and is used for tedious applications such as robotic surgery. A manufacturer needs force sensors during the testing process of their continuum robots.

Interface Solution

The 6A40 6-Axis Standard Capacity Load Cell is installed at the base of the bending segments of the continuum robot's arm. Push and pull rods are connected threaded through the arm multiple washers, and the load cell measures the forces of all axes when the continuum arm operates and moves.

Results

Interface's multi-axis load cell and instrumentation successfully tested the customer's continuum robotic arms.

Materials

- 6A40 6-Axis Standard Capacity Load Cell
- BX8-AS BlueDAQ Series Data Acquisition System with supplied software
- Customer computer
- Customer continuum arm undergoing test

How It Works

1. The 6A40 6-Axis Standard Capacity Load Cell is installed at the base of the continuum arm.
2. The BX8-AS BlueDAQ Series Data Acquisition System is connected to the 6A40 6-Axis load cell and the customer's PC Laptop.
3. As the continuum robotic arm undergoes a functionality test the load cell measures forces in all axes (Fx, Fy, Fz, Mx, My, Mz). The BX8-AS displays, logs, and graphs all measurements onto the customer's computer.

Continuum Robots

