

Roboforming Multi-Axis

Industry: Industrial Automation, Manufacturing

Summary

Customer Challenge

Roboforming is a new manufacturing term where robotic systems form different materials. For instance, roboforming sheet metal, or robotic incremental sheet forming (RISF), is when a robot uses a forming tool to gradually shape a sheet of metal until its desired form. A force measurement system needs to be implemented in order to monitor and control the amount of force exerted on the roboforming tool.

Interface Solution

Interface's 6A40A 6-Axis Load Cell can be installed between the flange and the roboforming tool. When connected to the BX8-HD44 Data Acquisition, the customer can receive force and torque measurements when connected to their control system using BlueDAQ software.

Results

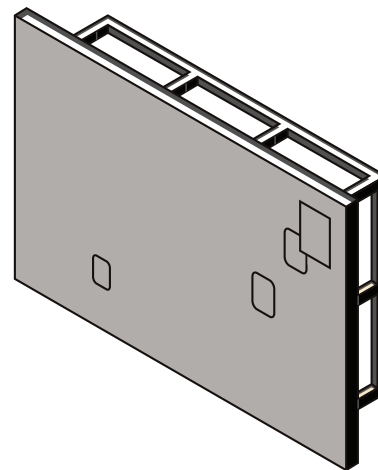
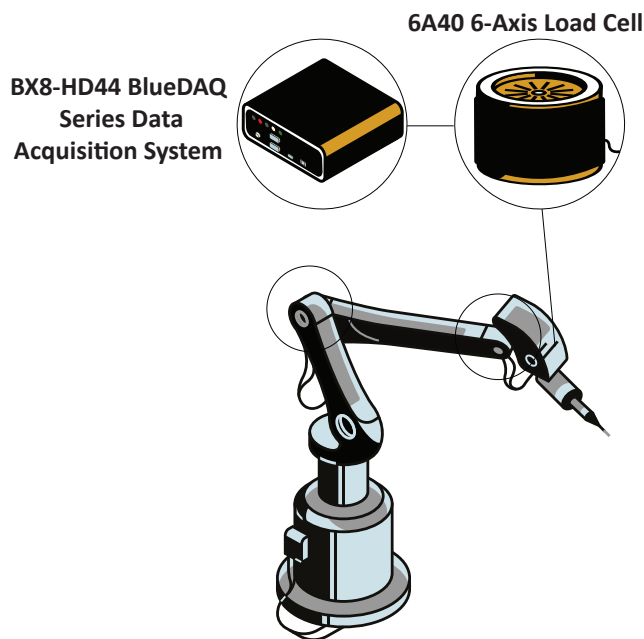
Interface's 6A40-6 Axis Load Cell was able to measure all forces and torques (F_x , F_y , F_z , M_x , M_y , M_z) and the BX8-HD44 Data Acquisition was able to log, display, and graph these measurements while sending scaled analog output signals for these axes to the robot's control system.

Materials

- 6A40 6-Axis Load Cell
- BX8-HD44 BlueDAQ Series Data Acquisition System with included BlueDAQ software
- Customer's robotic system

How It Works

1. The 6A40 6-Axis Load Cell is positioned between the flange and the roboforming tool on the robot.
2. 6A40 6-Axis Load Cell is linked to the BX8-HD44 BlueDAQ Series Data Acquisition System, which gathers force and torque measurement data.
3. The customer connects the BX8's analog outputs to their robotic control system. The customer is able to monitor, log, display, and graph these measurements. The results are sent to the customer's control system via analog or digital output.



**Roboforming
Operation**