

Conveyor Belt Adhesion Test

S-Type

Industry: IoT, Test and Measurement

Summary

Customer Challenge

A customer wants to test the adhesion strength in between the many layers and textiles of a conveyor belt. They want to conduct a separation test from the rubber of the conveyor belt from the other layers. They would also like a wireless solution.

Interface Solution

Interface's SMA Miniature S-Type Load Cell is installed in the customer's tensile test load frame, where it measures the forces applied as the test is conducted and the layers are pulled and separated. When connected to the WTS-AM-1F Wireless Strain Bridge Transmitter Module, the data is wirelessly transmitted to WTS-BS-5 Wireless Analog Output Receiver Module with nV output. The WTS-BS-5 can then connect to the 9330 Battery Powered High Speed Data Logging Indicator to display, graph, and log the data with supplied BlueDAQ software.

Results

With Interface's force measurement system and solution, the customer was able to successfully test the strength of their adhesion applied onto their conveyor belts through their layer separation test.

Materials

- SMA Miniature S-Type Load Cell
- WTS-AM-1F Wireless Strain Bridge Transmitter Module
- WTS-BS-5 Wireless Analog Output Receiver Module
- 9330 Battery Powered High Speed Data Logging Indicator with supplied BlueDAQ software
- Customer tensile test load frame
- Customer PC or Laptop

How It Works

1. The SMA Miniature S-Type Load Cell is installed in the customer's test frame, and connected to a WTS-AM-1E Wireless Strain Bridge Transmitter Module.
2. A separation test of the conveyor belt's layers are conducted, and the SMA measures the forces.
3. The WTS-AM-1E Wireless Strain Bridge Transmitter Module transmits the force results to the WTS-BS-5 Wireless Analog Output Receiver Module with nV output.
4. When connected to the 9330 Battery Powered High Speed Data Logging Indicator, data can be displayed, graphed, and logged onto the customer's PC with supplied BlueDAQ software.

Tensile Test Load Frame

Conveyor Belt Material

