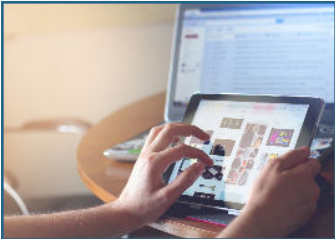


interface

FORCE MEASUREMENT SOLUTIONS.

CASE STUDY

Interface Sensor Technologies Enables IoT Capabilities



About

Across every manufacturing and electronics discipline in the world, organizations are trying to connect devices through the Internet. Many of these innovations are defined by an industry known as Internet of Things (IoT). The Internet of Things is used to describe objects with sensors, which have the embedded technologies to connect and share data with other devices and systems via the Internet. From fitness equipment to security systems, trash receptacles to appliances, consumers demand an easier connected experience. Making this requirement a reality involves advanced sensor technology, including use of force measurement sensors. Interface works with manufacturers, inventors, and product design engineers to create and improve their products with IoT sensing capabilities.

Challenge

The two most critical pieces need to make consumer products IoT enabled are force sensor accuracy and data signal compatibility. Accurate force sensing is necessary because when IoT systems enable automation by touch. Take for instance an automated ice maker, if the sensor does not read the weight of the ice already in the machine properly, it may make too much ice or not enough. IoT enablement allows the consumer to control the ice making appliance functionality via network communications to control demand. Data signal compatibility is a more obvious one. To create a connected environment, the sensor technology must be able to connect with other devices to send data, enabling the Internet of Things, using measurements and information to provide for a better user experience.

Interface Solutions

Interface understands it is imperative that sensor solutions meet the needs of constant innovation and solve modern design and use case testing challenges. Whether it is extremely miniature sensors embedded into a product, enabling digital outputs, or using wireless measurement devices that provide intelligent information, Interface is a top provider of measurement technologies enable IoT through the entire product lifecycle from R&D to production and deployment.



SSB Sealed Beam Load Cells



WTS-AM-1E Wireless Strain Bridge Transmitter Module



9330 Battery Powered High Speed Data Logging Indicator

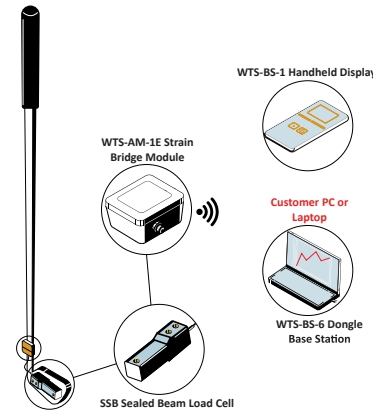


AT103 2-Axis Axial Torsion Load Cell

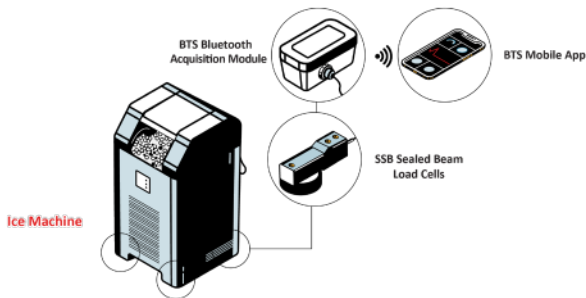
Our deep expertise in connected sensor technology translates well to the consumer product space that is growing in use of load cells and torque transducers. Interface offers a wide variety of sensor technologies designed to measure a multitude of forces including weight, torque, pull, push, and simple touch. We have a broad range of sizes and sensor specifications to meet most standard IoT applications, existing or new. Our expert engineers can design custom products to meet unique application requirements for size, data signal compatibility. Our OEM team can help to create sensors at scale, for integration into products for connective use.

IoT Golf Club Swing Accuracy

A golfer wanted a system that monitors and records their striking accuracy and swing movement. Interface created a custom made SSB Sealed Beam Load Cell attached in line with the golf handle. When a golf ball is struck, force measurements are recorded, logged, and graphed using the WTS-AM-1E Wireless Strain Bridge Transmitter. The results are transmitted directly to the WTS-BS-6 Wireless Telemetry Dongle Base Station when connected to the customer's PC or laptop. Using this solution, the customer was able to successfully record, graph, and log a golf player's striking accuracy and swing movement with Interface's wireless force system.



IoT Ice Machine Weighing

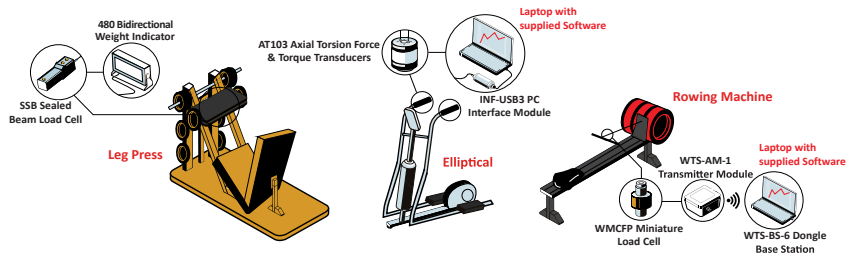


A manufacturer wanted to check the amount of ice in their ice machines to ensure it is working properly for future consumers. If the amount is below the desired weight, they want it to receive notifications when to add more. Interface's solution was to attach the WMC Sealed Stainless Steel Miniature Load Cell to the actuator of the test rig. The airbag connector is held in place at the bottom of the test rig. Forces are applied and measured using the 9330 High Speed Data Logging Indicator as the connector is pushed down to latch together. Results can be logged, downloaded, and reviewed when connected to a PC or laptop. Interface's Bluetooth® Telemetry System

successfully measured the ice machine's weight and wirelessly transmitted it to the customer's phone for quick and immediate results.

IoT Enabled Exercise Equipment Protects Customers

A fitness machine manufacturer requires IoT enabled measurement systems for their home and gym elliptical, leg press, rowing machines, and the cable machines. Using sensor technologies to send and receive data in real time ensures the machines are used properly, preventing injuries for consumers. A combination of Interface measurement products provided for the IoT product designs, including the WMCFP Overload Protected Sealed Stainless Steel Miniature Load Cell, SSB Sealed Beam Load Cells, and AT103 Axial Torsion Force and Torque Transducers. Paired with Interface's digitally connected wireless instrumentation, the forces are measured in real-time, setting limits and alarms for improper use.



Learn More

Interface offers a host of IoT solutions for the modern, connected home devices and more. To learn more about our products designed to enable IoT, check out our IoT Solutions brochure on our website at www.interfaceforce.com.