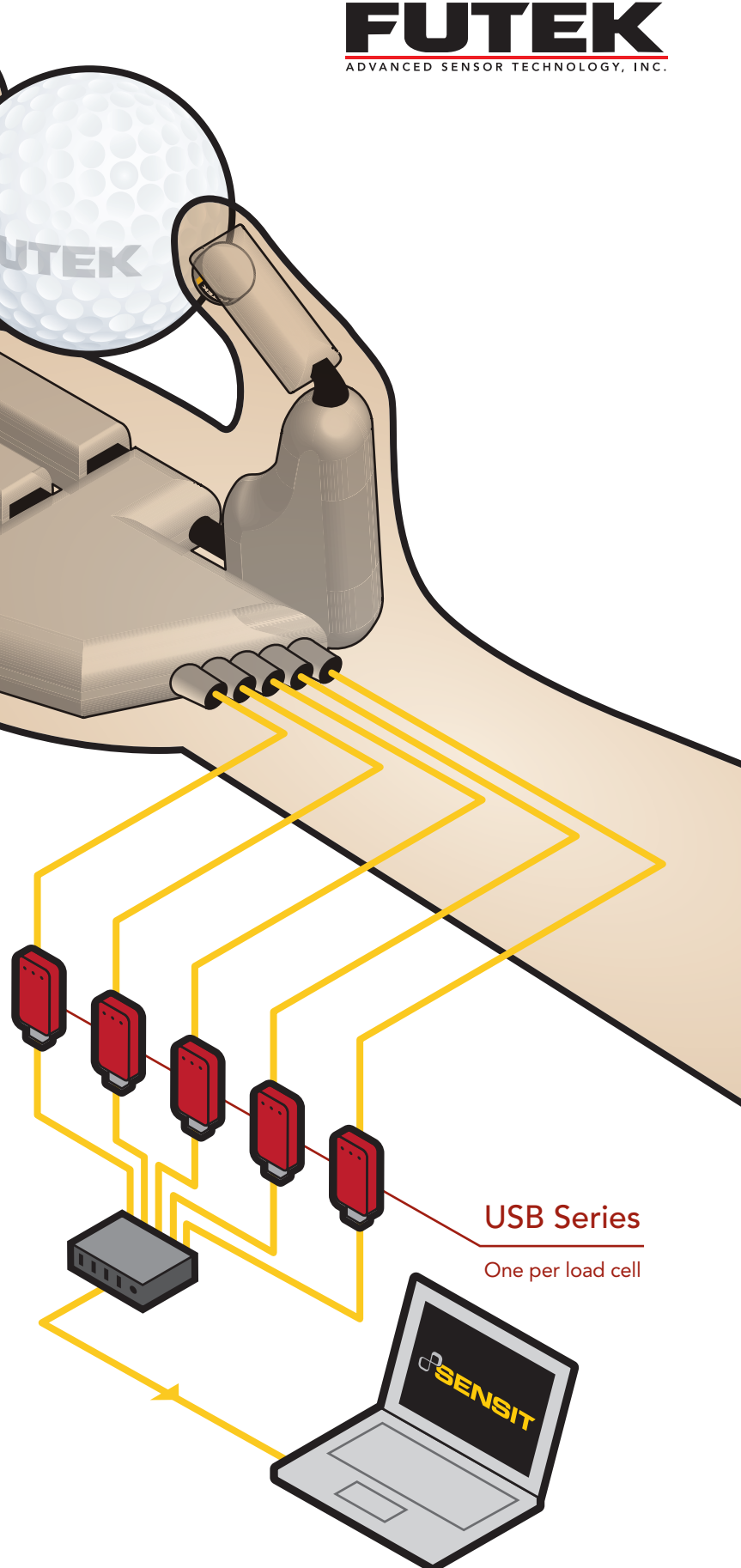


Load Cell

LLB Series

Auditing Robotic Prosthetics

They say to make an omelet you need to break a few eggs. Of course, it helps when the eggs are broken into the bowl, and not broken in the carton prior to taking them out. With advancements in prosthetics allowing fine motor control driven by a patient's nervous systems, the use of miniature load cells placed at grip points help observe a wide variety of operating conditions the patient requires from their prosthetic every day.



USB Series

One per load cell

Sensor Solution Source

Load · Torque · Pressure · Multi-Axis · Calibration · Instruments · Software

www.futek.com



U.S. Manufacturer

A load cell has to meet many requirements to be fit for use in a robotic prosthetic:

- A small footprint to fit within the 20mm diameter of the average human fingertip
- A wide range and high resolution to cover at the average human fingertip momentary hold strength of 13 pounds
- Moving back to the omelet example, a low non-repeatability to ensure that all the eggs remain unbroken, and not just every other egg
- A wide operating temperature range so that cold of the Antarctic (-45°C) and the heat of Death Valley (55°C) do not inhibit function

FUTEK's miniature button load cells ([LLB130](#)) meet and exceed the requirements for sensors in robotic prosthetics. The sensors are 9.5mm in diameter and 3.3mm thick. They come in variety of capacities including 10 lb. and 25 lb. models perfect for measuring loads similar to that of human fingers. All feature a non-repeatability of 0.1%, an operating temperature range of -51°C to 93°C, and 17-4 PH stainless steel housing to a wide range of environmental conditions.

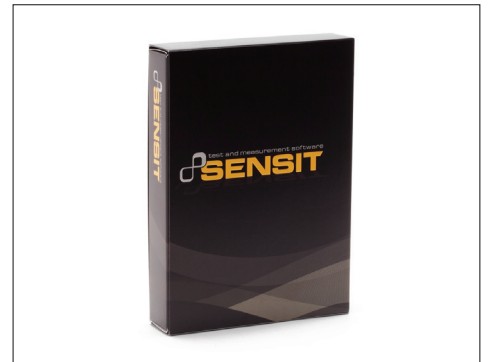
Finally, given the varying labs and test environments that robotic prosthetics are tested in, flexibility and ease of interface to lab computers is essential. Here, FUTEK's miniature button load cells interface with not only PLCs, but also FUTEK's [USB 24-bit interface kits](#) paired with their [SENSIT™ Test and Measurement Software](#) for live logging and graphing on a PC.



[MINIATURE LOAD BUTTON](#)
LLB130



[HIGH SPEED/RESOLUTION USB](#)
USB220



[SENSIT™ SOFTWARE](#)
FSH03189

Drawing Number: AP1068

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