Presenting the TLL Series, an Economical Method for Accurately Measuring Inline Tension Forces

The TLL Series offers load cells that can accurately measure inline tension forces in ranges of 500 to 50,000 pounds.

CAL-TEDS Plug & Play Smart Sensors Icon

TLL Series Load Cell

TEMECULA, CALIFORNIA, UNITED STATES, February 24, 2021 /EINPresswire.com/ -- The TLL Series tension load cells are offered as an economical method for accurately measuring in-line tension force. Best results with our TLL tension link load cell are obtained when loaded through spherical rod end bearings or similar universal mechanical linkage. The 500 through 3,000 pound ranges are constructed using anodized aluminum and feature internal threads, while the 5,000 through 50,000 pound ranges are manufactured using heat treated 17-4ph stainless steel and feature external threads. The nominal full scale output of the TLL Series is 2 mV/V with accuracies of Nonlinearity 0.25%, Hysteresis 0.25%, and Nonrepeatibility 0.1%. The sensing element and cable exit is moisture resistant for semi-controlled environments. The TLL Series are also supplied with a Certificate of Calibration traceable to NIST.

https://www.transducertechniques.com

Transducer Techniques, established in 1979, designs and manufactures a complete line of load cells, torque sensors, special purpose transducers and related instrumentation. Transducer Techniques load cells are uniquely designed for weight and force measurement in such diversified applications as process control and factory automation. Other applications exist in numerous fields of science and industry for our load cells. All transducer sensing elements incorporate bonded foil strain gauges, wired in a full Wheatstone bridge configuration.

Technology
Load cells are electro-mechanical transducers that translate force or weight into voltage. This change in voltage produces a signal in the read-out instrumentation, a repeatable deflection or indication that can be calibrated directly in terms of the load applied to the load cell.

TLL Series Tension Load Cell

Construction
Construction of the load cell utilizes all the advantages of bonded foil strain gauges. Sealed within the load cell are sets of matched strain gauges bonded to a high strength element, machined to close tolerances. The strain gauges are electrically connected to form a balanced Wheatstone bridge and additional compensation resistors are added to the circuit for maintaining the accuracy of the bridge over a wide temperature range.

Operation
The principle of operation depends upon the deflection of the strain gauge filament, creating a change in its resistance, thereby unbalancing the bridge circuit. As a result, for a given input voltage, the output voltage of the bridge varies proportionally with the load and the change can be read on appropriate instrumentation.

Quality
When completed, each load cell is individually tested and calibrated. Each cell must meet or exceed rigid electrical and mechanical performance tests before it is released for service. Also, every cell is proof tested to its full rated capacity, and in most instances, to over its rated capacity.

Attributes
An important asset of our load cells is their extremely small deflection. The maximum deflection of standard cells does not exceed .012" at full load. This plus the fact that these load cells contain no moving parts opens unlimited application fields. The inherent compactness of the load cells minimizes installation problems.

The frequency response characteristics of our load cells are exceptionally good. The relatively low mass, and the small deflection under load, result in a high-frequency response which emphasizes the use of the load cells in many services where other transducers cannot perform.

Only strain gauges of the highest quality are installed and configured by technicians who have undergone our extensive training program targeting craftsmanship and attention to detail. To the end-user, this means a quality product. All Load Cells / Force Sensors and Torque Sensors are supplied with a Calibration Certificate traceable to NIST.

Customer Support
Transducer Techniques, LLC
+1 800-344-3965
email us here
Visit us on social media:
Facebook
Twitter
