



STRAINERT FORCE CALIBRATION SERVICE

Strainert's calibration facilities enable Strainert to certify all our manufactured products at our manufacturing site up to a 500,000 pound capacity. All Strainert force measurements are traceable to the National Institute of Standards and Technology (NIST) and are performed by a highly-trained and experienced staff in a controlled environment. Strainert calibration services include:

- Factory-site Calibrations to 500,000-lbs. Rated Capacities
(Calibration capabilities to 4,000,000-lbs. are available in partnership with an accredited local calibration facility)
- NIST Traceability
- Detailed Calibration Reports
- Tension and/or Compression Calibrations
- Compliance with ANSI/NCSL Z540-1 and MIL-STD-45662A Specifications (Optional)
- Complete System Calibrations Available
- Special Overload / Proof Load and Additional Testing

Standard Strainert Calibrations

All of Strainert's standard calibration procedures result in a certification report that includes the product model and serial number, rated capacity, test load(s) applied, output sensitivity recorded at each test load, analysis of calibration data, and a statement certifying traceability of the measurements.

Strainert offers several different calibration procedures and corresponding reports based on the customer's requirements and product design criteria.

Available Standard Strainert Calibration Procedures:

Procedure	Bolts	Studs	Single Bridge Load Cells	Dual Bridge Load Cells	Tension Links	Single Axis Clevis Pins	Dual Bridge Clevis Pins	Clevis Pins Bi-Axial
PL								
CAL2-LO								
CAL2-LU								
CAL5-LO	•	•				•	•	
CAL5-LU			•	•	•			
CALIN-LO (••)								
CALIN-LU (••)								
CALSC-LO (••)								
CALSC-LU (••)								
CALXX-LOD								
CALXX-LUD								
CALXX-LOBD								•
CALXX-LUBD								
ANSI/NCSL Z540-1								
MIL-STD-45662A								

- : Indicates the standard calibration included in the purchase price.
- : System calibration is included when transducer and indicator/signal conditioner are purchased together as a system.
- XX: Specify 2, 5, IN, or SC
- CAL2: Calibration with respect to a straight line with a fixed endpoint.
- CAL5: Calibration with respect to the best straight line through zero.
- CALIN: System calibration with an indicator readout.
- CALSC: System calibration with an analog signal conditioner.

Proof Loading Calibration (PL):

A Proof Load Calibration reports the output at Full Load. Strainert Force Sensing Fasteners (Bolts & Studs) are provided with Proof Loading Data at no extra charge. Output data is reported in units of mv/V.

Loading Only Calibration (LO):

A Loading Only Calibration reports the output of the Force Sensor at each step of a 5 step calibration run. Force Loads are applied in 5 equal steps in ascending direction from (No-Load) to (Full-Load), then back to (No-Load) in one step. A total of three runs are reported.

The force sensor output is reported in mv/V. Calibration Analysis is based on percentage of Full Scale Signal, and provides:

- Non-Linearity, Compared to Best Fitting or Predetermined Straight Line Signal
- Repetition of Loading Cycles, Zero-Load, Maximum Load readings.
- Deviations of End Point, or Maximum Load, reading from Straight Line Signal.

For all functions, maximum deviation figures are reported, without averaging.

Strainsert Force Sensing Clevis Pins and Clevis Bolts are provided with a one direction (LO) calibration at no extra charge.

Loading and Unloading Calibration (LU):

A Loading and Unloading Calibration reports the output of the Force Sensor at each step of a 10 point calibration run. Force Loads are applied from No-Load to Full-Load in five equal steps, then back to No-Load in five equal steps. A total of three runs are reported.

The force sensor output is reported in mv/V. Calibration Analysis is based on percentage of Full Scale Signal, and provides:

- Non-Linearity, Compared to Best Fitting or Predetermined Straight Line Signal
- Repetition of Loading Cycles, Zero-Load, Maximum Load readings.
- Deviations of End Point, or Maximum Load, reading from Straight Line Signal.
- Hysteresis

For all functions, maximum deviation figures are reported, without averaging.

Strainsert Flat Load Cells®, Fatigue Rated Flat Load Cells®, and Tension Links are provided with a one direction (LU) calibration at no extra charge.

Loading Only Calibration Dual Bridge (LOD):

Identical to the (LO) calibration for each independent bridge of a dual bridge transducer.

Strainsert Dual-Bridge Load Sensing Clevis Pins and Clevis Bolts are provided with a one direction (LOD) calibration at no additional cost.

Loading & Unloading Calibration Dual Bridge (LUD):

Identical to the (LU) calibration for each independent bridge of a dual-bridge transducer.

Strainsert Dual-Bridge Flat Load Cells®, Dual Bridge Fatigue Rated Flat Load Cells® and, Dual Bridge Tension Links are provided with a one direction (LUD) calibration at no additional cost.

Loading Only Calibration Bi-Directional (LOBD):

(LOBD) calibration loads are applied from (No-Load) to (Full-Load) in five equal steps, then back to (No-Load) in one step.

Two runs are recorded for each of the loading directions.

The transducer signal is reported in mv/V.

Calibration Analysis is based on %FS Signal, and provides:

- Non-Linearity, Compared to the Best Fitting or Predetermined Straight Line Signal;
- Repetition of Loading Cycles, Zero-Load, Maximum readings;
- Deviations of End Point, or Maximum Load, reading from Straight Line Signal.
- Detailed Cross-Talk readings induced in the bridge circuit of the unloaded direction.

For all functions the maximum deviation figures are reported without averaging.

Strainsert Bi-Directional Load Sensing Clevis & Bolts are provided with one (LOBD) calibration for each primary loading direction at no additional cost. Cross-talk correction algorithms are also provided as required.

Loading & Unloading Calibration Bi-Directional (LUBD):

(LUBD) calibration loads are applied from (No-Load) to (Full-Load) in five equal steps, then back to (No-Load) in five equal steps.

Two complete runs are made for each of the two loading directions.

The transducer signal is reported in mv/V.

Calibration Analysis is based on %FS Signal, and provides:

- Non-Linearity, Compared to the Best Fitting or Predetermined Straight Line Signal;
- Repetition of Loading Cycles, Zero-Load, Maximum readings;
- Deviations of End Point, or Maximum Load, reading from Straight Line Signal.
- Hysteresis; and
- Detailed Cross-Talk readings induced in the bridge circuit of the unloaded direction.

For all functions the maximum deviation figures are reported without averaging.

Strainsert Bi-Directional Load Sensing Clevis & Bolts are provided with one (LOBD) calibration for each primary loading direction at an additional cost. Cross-talk correction algorithms are also provided as required.

