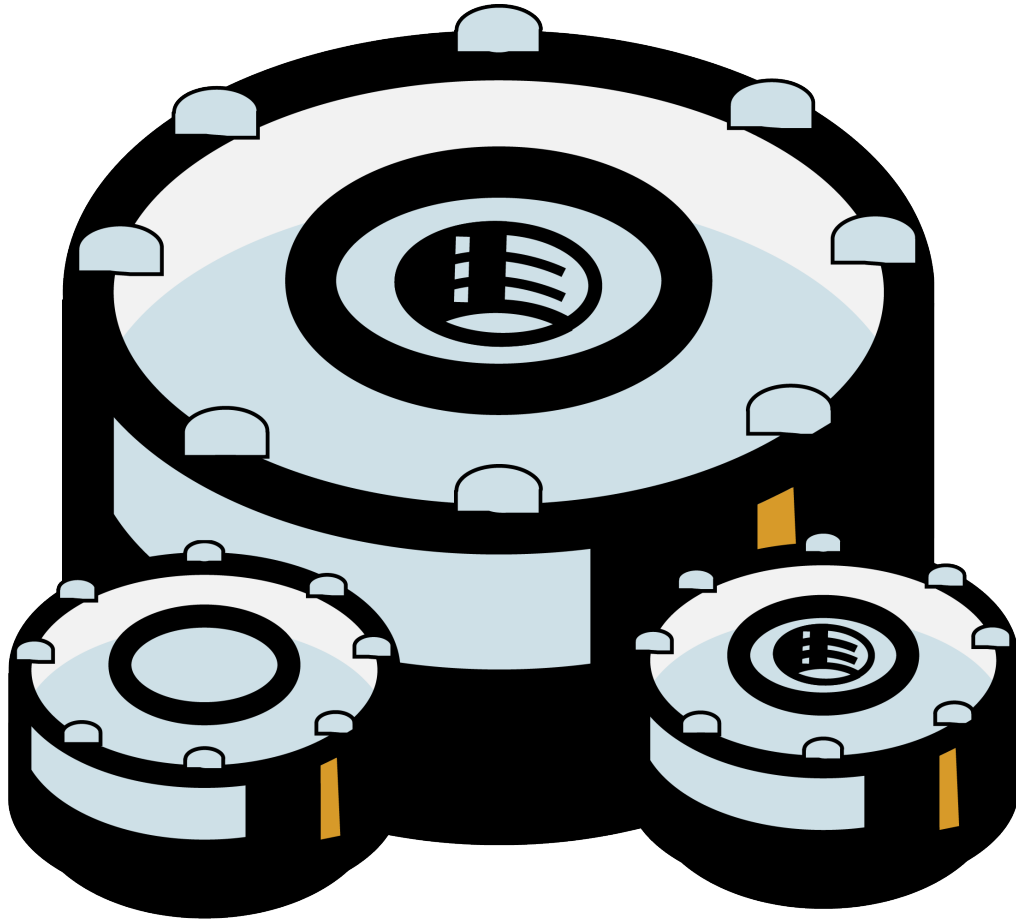


LowProfile®

Interface Load Cells



LowProfile v1.2 08-30-2023



interface
FORCE MEASUREMENT SOLUTIONS

The World Leader in Force Measurement Solutions™

We manufacture more than 60 different types of load cells and mini load cells at Interface.

We have capacities ranging from 1 lbf / 500 gf to 2 million lbf / 9,000 kN. Our facility produces them in several shapes and sizes. Models include pancake load cell and donut load cell in our LowProfile® load cell and thru-hole load cell. Additionally, our canister, rod end, downhole, column, coil tubing, load buttons, and load washers all use our proprietary alloy strain gages. This helps us produce the most accurate and reliable data possible in test and measurement. With the wide variety of load cell specs in stock, most customers are able to use an off-the-shelf application. However, our engineers can also work with you to design a custom load cell to fit your exact needs. Contact us so that we can help you find a solution that fits your requirements.

In-House CNC Machining

- Total control of manufacture and quality standards

Moment Compensated during Production

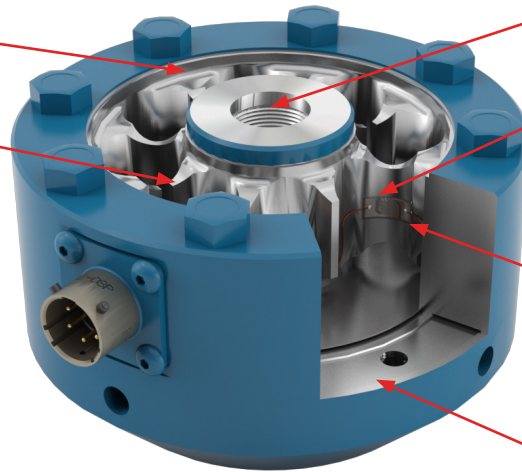
- Reduces the effects of off-axis loads

TRUE Fatigue Specification

- Fully reversed cycles through zero at full capacity

Class Leading Performance

- Published accuracy (Static Error Band) specification as low as $\pm 0.02\%FS$ and actual performance as low as $\pm 0.01\%FS$ on a regular basis
- Will never be less accurate than published spec



High Quality Threads

- 0.002" perpendicularity
- 0.003" concentricity

Proprietary High Output Strain Gages

- Matched to flexure for best performance
- 8-16 Strain Gages per bridge

Temperature Compensated Strain Gages

- No signal loss from compensation resistors
- Measures temperature at the strain gage

Accurate Machined Base (0.0002" flatness)

- Provides excellent mounting surface

Proprietary Strain Gages

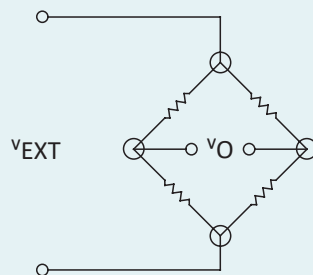
- Higher output
- Higher signal to noise ratio
- Higher resolution
- Superior fatigue life

Rm = Modulus compensating resistor

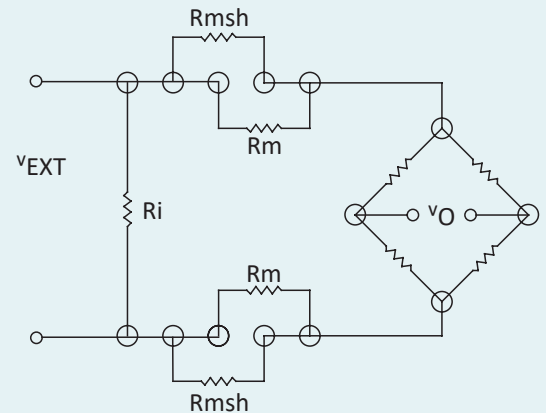
Rmsh = Fine trim for Rm

Ri = Bridge input resistance trim

Interface Load Cell



Typical Competitor's Load Cell



Options available for a variety of applications:

- Fatigue Rated
- Internally Amplified
- Axial Torsion
- Multi-Axis
- 25 lbf to 2 million lbf
- 2-Wire Amp
- 3-Wire Amp
- Flange Mount
- High Temperature
- Intrinsically Safe
- Hermetically Sealed
- Calibration Grade
- Dual Range
- Custom Designs
- Overload Protection
- Adapters
- Vacuum Rated
- Cables



1000 Fatigue Rated
250 lbf to 50K lbf
1.25 kN to 225 kN



1000 Fatigue Rated High Capacity
100K lbf to 1,000K lbf
445 kN to 4,448 kN



1100 Ultra Precision Very High Accuracy
300 lbf to 200K lbf
1.33 kN to 890 kN



1101 Ultra Precision Compression Only
1K lbf to 50K lbf
4.45 kN to 222 kN



1200 Standard Precision
300 lbf to 100K lbf
1.33 kN to 445 kN



1200 Standard Precision High Capacity
200K lbf to 2,000K lbf
890 kN to 8,896 kN



WTS 1200 Standard Precision Wireless
300 lbf to 2,000K lbf
1.33 kN to 8,896 kN



1200 DCell Standard Precision Wireless
RS485, Modbus, CANbus, CANopen, ASCII
300 lbf to 2,000K lbf
1.33 kN to 8,896 kN



1200 & 1201 Series 3-Wire Internal Amplifier
300 lbf to 100K lbf
2 kN to 445 kN



1208 Flange Mount Standard Precision
30K lbf to 330K lbf
133 kN to 1,468 kN



1201 Compression-Only Standard Precision
1K lbf to 400K lbf
4.45 kN to 1,779 kN



1331 Compact Compression Only
100K lbf
450 kN



1500 Compact Low Capacity
25 lbf to 300 lbf
111 N to 1.33 kN



1600 Gold Standard[®] Calibration
500 lbf to 200K lbf
2.22 kN to 900 kN



1601 Gold Standard[®] Compression Only Calibration
1K lbf to 100K lbf
4.45 kN to 445 kN



1606 Gold Standard[®] Low Capacity Calibration
50 lbf to 300 lbf
222 N to 1.33 kN



1700 Flange Mount
220 lbf to 14K lbf
1 kN to 63 kN



1800 Platinum Standard[®] Calibration
1.1K lbf to 55K lbf
4.89 kN to 245 kN



2101 Dual Range
1/5K to 100/270K lbf
4.45/22.2 kN to 445/1201 kN



2400 Stainless Steel
100 lbf to 5K lbf
445 N to 23 kN

Performance Parameters that Set Us Apart from Our Competitors

- **Creep.** Interface is $\pm 0.025\%$ /20 minutes
- **Symmetry.** Interface is less than 0.1% in comparing included tension and compression calibration data
- **Minimum Shift in Zero Balance.** Toggle from complete cycle of tension and compression
- **Parallelism.** 0.002" between top and bottom load surfaces
- **Concentricity.** 0.003" variance between top thread and base thread
- **Surface flatness.** Interface load cell and base maintains 0.0002" flatness



2400 Stainless Steel
High Capacity
 7.5K lbf to 300K lbf
 33.4 kN to 1,334 kN



2404 Stainless Steel
2-Wire 4-20 mA
 100 lbf to 5K lbf
 445 N to 23 kN



3200 Precision
Stainless Steel
 2.5K lbf to 100K lbf
 11.1 N to 445 kN



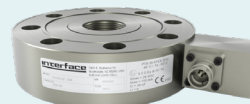
3201 Stainless Steel
Compression Only
 2.5K lbf to 100K lbf
 11.1 N to 445 kN



3410 Intrinsically Safe
 750 lbf to 10K lbf
 3.37 N to 45 kN



3416 and 3430 Coil Tubing
Intrinsically Safe
 20 lbf to 60K lbf
 89 kN to 267 kN



3420 Coil Tubing
Intrinsically Safe
 40K lbf to 50K lbf
 178 kN to 222 kN



BPL Pedal Load Cell
 50 lbf to 500 lbf
 250 N to 2,500 N



1216 2-Axis Axial Torsion
 Force: 250 to 2K lbf
 Torque: 125 to 1K lbf-in
 Force: 1.11 to 8.9 kN
 Torque: 14.1 to 113 Nm



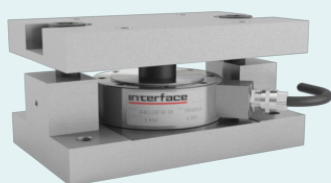
1516 2-Axis Axial Torsion
 Force: 100 lbf
 Torque: 50 lbf-in
 Force: 444.8 N
 Torque: 5.6 Nm



2816 2-Axis Axial Torsion
 Force: 3.3K to 15K lbf
 Torque: 2K to 7.5K lbf-lb
 Force: 14.6 to 66.7 kN
 Torque: 226 to 847 Nm



5200 3-Axis Force Moment
 Force: 1K to 50K lbf
 Moment: 400 to 20K lbf-in
 Force: 4.45 to 222 kN
 Moment: 45.2 to 2.26K Nm



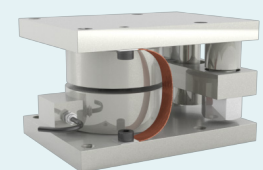
A4200/A4600
WeighCheck™ Load Cells
 2.5 lbf to 50K lbf
 11.1 kN to 222 kN



SSLP Stainless Steel Low
Profile Universal Load Cell
 50 lbf to 300 lbf
 222 N to 1330 N



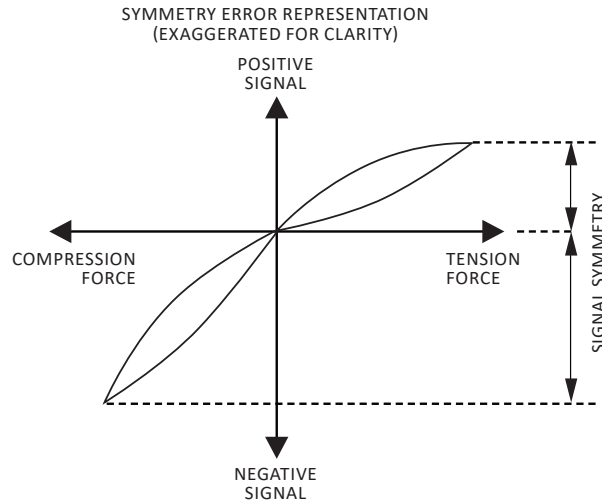
WSSCLC Stainless Steel
Low Profile Compression
Load Cell
 220 lbf to 440.9K lbf
 100 kg to 200 MT



WSSCLC-MOUNT Weighing
Assembly
 220 lbf to 440.9K lbf
 100 kg to 200 MT

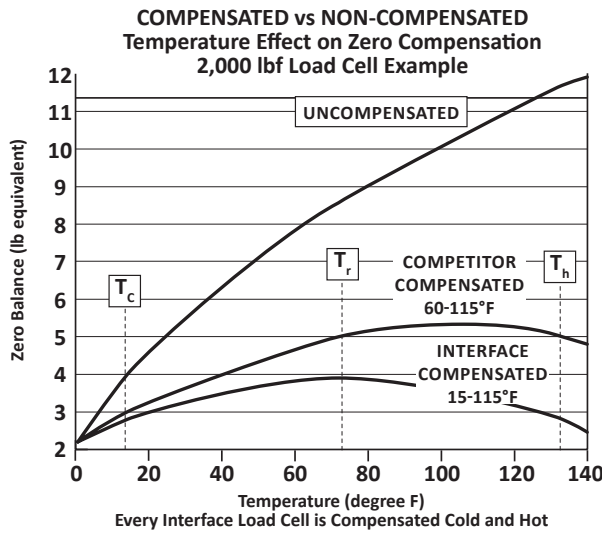
Calibration

- Every LowProfile® load cell is individually calibrated in tension and compression with no additional charge
- Allows for the comparison of rated output in tension to the rated output in compression
- We do system calibrations of most load cell brands



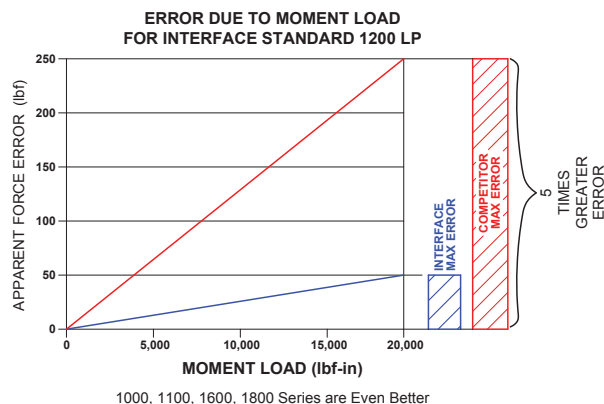
Temperature Effects

- Industry leading temperature performance (0.0004-0.0008%RO/°F)
- Hot and cold temperature compensation to reduce thermal effects
- We test and adjust each sensor at each temperature extreme
- Multiple runs in temperature chamber to validate adjusted final accuracy



Interface Moment Compensation

- Every LowProfile® load cell is mechanically compensated for moment loads
- Minimizes effect of eccentric loading and installation orientation
- Maximizes the operating life and minimizes the error
- Most load cell manufacturers do not compensate or have a specification for eccentric load sensitivity like Interface



Interface Load Cells

- Eccentric Load Compensated
- Low Profile
- Tension & Compression
- Wireless
- Fatigue Rated
- Compression Only
- Amplified
- Flange Mount
- Calibration Grade
- Canister
- Sealed
- Column and Rod End
- Stainless
- Pedal
- Load Button
- Overload Protected
- Load Washer
- Beam Type
- S-Type
- Tension Only
- Single Point

Interface force measurement load cells are available in many design configurations for project designs requiring the highest performance.

To learn more about the Interface products or force measurement solutions call 480-948-5555.

Interface is the world's trusted leader in technology, design and manufacturing of force measurement solutions.

Our clients include a "who's who" of the aerospace, automotive and vehicle, medical device, energy, industrial manufacturing, test and measurement industries.

Interface engineers around the world are empowered to create high-level tools and solutions that deliver consistent, high quality performance. These products include load cells, torque transducers, multi-axis sensors, wireless telemetry, instrumentation and calibration equipment.

Interface, Inc., was founded in 1968 and is a US-based, woman-owned technology manufacturing company headquartered in Scottsdale, Arizona.