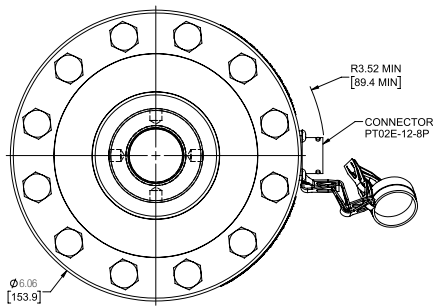
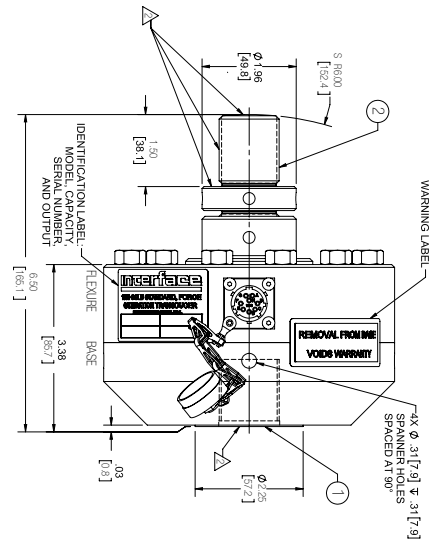
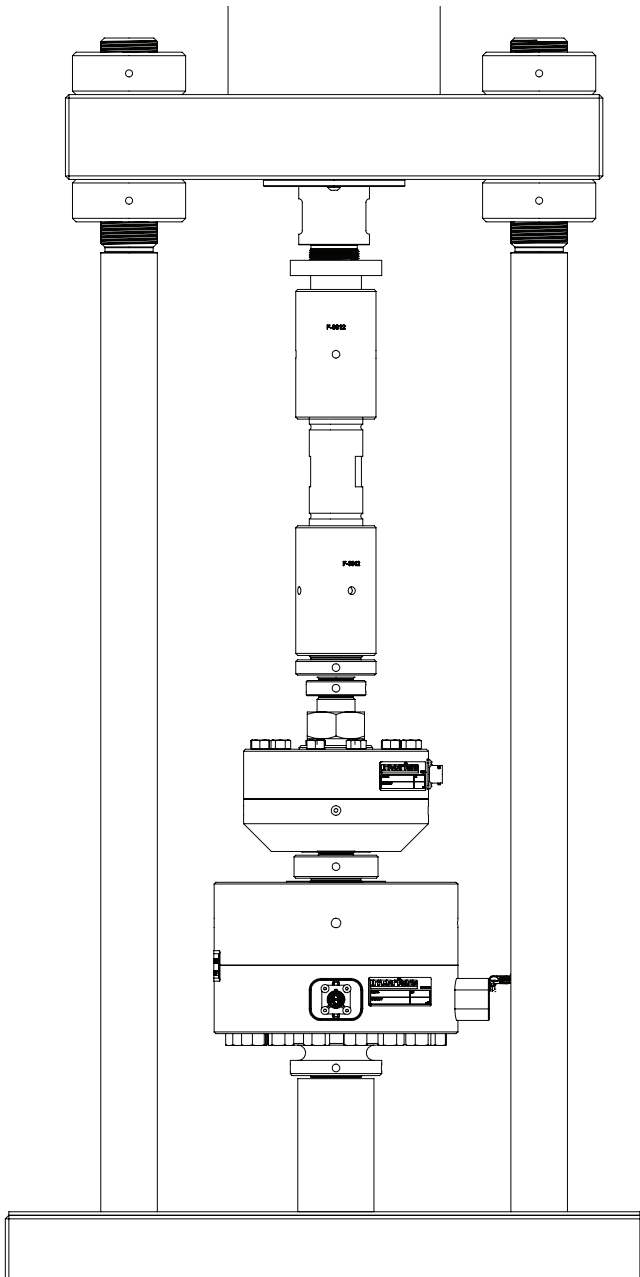


# Interface

## Calibration Systems



Calibration Systems v1.2 11-17-2022

# Interface Load Cell Calibration Systems are available in design configurations for a wide range of rigid and portable systems.

We offer strain gage load cell calibration systems for nearly any force measurement application including custom designs. Our GS-SYS Gold Standard® Calibration System consists of a four-post rigid load frame, proprietary load feedback loop, signal conditioning hardware, and fully-automated calibration software for the highest accuracy and lowest uncertainty available. Portable versions of the GS-SYS system are also available for calibrating load cells and test equipment.

## Gold Standard® Calibration System Load Frame

The Interface Gold Standard® Calibration System Load Frame, using the Interface Gold Standard® Load Cell along with the integrated computer system with Interface Gold Standard® Calibration Software, ensures a metrology system of the highest accuracy and lowest uncertainty. The GS-SYS Gold Standard® Calibration System consists of a four-post rigid load frame, proprietary load feedback loop, signal conditioning hardware, and fully-automated calibration software.

### The Gold Standard® Calibration System includes:

- 55K, and 100K lbf capacities load frame
- Integrated control and measurement system
- Integrated computer system with Interface Gold Standard® Calibration Software
- One set of thread adapters for initial set-up and use

### Features and Benefits:

- 2 channels (option available for 4 channel)
- Less than 0.04% RDG uncertainty
- Signal conditioning has very low non-linearity specification (<0.003% FS)
- Fully automated system will reduce calibration time by 50% to 90%
- Automated calibration run can be completed in less than 5 minutes
- 4-post design provides superior stability throughout the calibration
- Innovative fixturing allows for tension and compression calibration without changing setup
- 12 in. clearance between posts allows for easy load cell installation and removal
- Accurate and reliable load control achieved by interactive load feedback design
- Testing and reporting per ASTM E74 and/or ISO 376 standards
- Automatically produces standard reports, graphs, and performance parameter calculations
- Ability to customize reports and graphs
- Automatically archives data



## Interface Force Verification Frame

The Interface Force Verification Frame is a portable high force capacity frame and accessories designed to apply tension and compression forces to load cells with high resolution and accuracy. The system features a reaction frame, manual actuator, thread/adaptor accessories, and optional force sensor(s) and instrumentation. The hardware can be used to verify operation of a device under test or calibrate relative to a second reference load cell.



## CX Series Precision mV/V Transfer Standard

The CX Series Precision mV/V Transfer Standard is the most accurate load cell simulator in the market with special low thermal EMF construction. Each unit individually calibrated, aged, and re-calibrated. Strong and rugged design. Since this product is NIST Traceable, it can be used to calibrate and check instruments in an accredited lab. Five different models available. Models CX-0202, CX-0610, CX-0440, CS-0330, and CX-0220 are used for setting up and checking the Gold Standard® System Hardware. CX-0440, CX-0330, and CX-0220 are single-step mV/V transfer standards providing precision outputs of  $\pm 4$ ,  $\pm 3$ , and  $\pm 2$  mV/V respectively. CX-0610 is a multi-step unit that allows the user to go from -6 mV/V to +6 mV/V in 1 mV/V steps. Model CX-0404 is specifically designed for instrument substitution testing as per ASTM E74.




**LF1-55K-1-5 Gold Standard® Calibration System Load Frame**  
 55K lbf  
 24.4"/30.4"  
 (MIN/MAX)  



**LF1-55K-1-6 Gold Standard® Calibration System Load Frame**  
 55K lbf  
 38.4"/44.4"  
 (MIN/MAX)  



**LF1-100K-1-7 Gold Standard® Calibration System Load Frame**  
 100K lbf  
 38.4"/44.4"  
 (MIN/MAX)  



**CA Calibration Adapters**  
 Designed to work with Interface products



**IFVF-1K Interface Force Verification Frame**  
 1,000 lbf  
 ± 1k lbf Hand Wheel Rotation



**IFVF-2.5K Interface Force Verification Frame**  
 2,500 lbf  
 ± 2.5k lbf Handle Rotation



**IFVF-5K Interface Force Verification Frame**  
 5,000 lbf  
 ± 5k lbf Handle Rotation



**IFVF Thread Adapters, Post Adapters, & Platens**  
 Pre-configured kits with common sizes available



**CX-0220 Single Step Precision Transfer Standard**  
 ±2mV/V



**CX-0330 Single Step Precision Transfer Standard**  
 ±3mV/V



**CX-0404 13 Step Precision Transfer Standard**  
 ±4.4mV/V





**CX-0440 Single Step Precision Transfer Standard**  
 ±4mV/V





**CX-0610 13 Step Precision Transfer Standard**  
 ±6mV/V



**GS-SYS03 Gold Standard® Portable Load Cell Calibration System**  
 Reduces Calibration Time 50-90%  
 Automatic Calibration and Archiving  



**GS-SYS04 Gold Standard® Portable E4 Machine Calibration System**  
 Reduces Calibration Time 50-90%  
 Automatic Calibration and Archiving  



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



**2200 Calibration Grade Column Load Cell**  
 100K lbf to 200K lbf  
 445 kN to 890 kN

## GS-SYS03 Gold Standard® Portable Load Cell Calibration System

Every new transducer or testing system must be calibrated to determine its properties and accuracy. It is also necessary to calibrate transducers periodically because of drift, possible undetected damage, as well as normal wear and tear. The Gold Standard™ System is a complete PC-based system for the calibration of load cells and torque transducers. Separate software is available for the calibration of load cells in a dead-weight system. Utilizing the experience obtained in almost five decades of force calibration of tens of thousands of load cells, the system provides state-of-the-art accuracy. The system is user-friendly and calibrations can be conducted with minimal training. Pull-down menus and step-by-step instructions guide the operator through a complete calibration.

System Includes:

- 9840 Dual Channel 24-bit Intelligent Indicator with 0.005% non-linearity
- Internal mV/V calibration of Model 9840
- ICS-202 force calibration software
- Two Gold Standard interconnect cable assemblies
- CX-0440 ±4mV/V transfer standard
- SIS-103 one-day training at Interface Inc.

## GS-SYS04 Gold Standard® Portable E4 Machine Calibration System

Interface Portable E4 Machine Verification System integrates our Model 9840 Intelligent Indicator with any Windows-based laptop computer. This solution creates a portable system for in-field verification of force test machines. This verification involves insertion of a reference load cell (such as the Interface Gold Standard™ Load Cell) into the equipment under test. Each data point in the test frame controller is compared against the reading from the reference load cell.

System Includes:

- 9840 Single Channel 24-bit Intelligent Indicator with 0.005% non-linearity
- Internal mV/V calibration of Model 9840
- ICS-205 machine calibration software
- Gold Standard interconnect cable assembly
- CX-0440 ±4mV/V transfer standard
- SIS-103 one-day training at Interface

## Calibration Grade Load Cells

The 1800 Platinum Standard® low profile load cell is the ultimate in calibration grade load cells which is capable of a 2% lower limit per ASTM E74 and features an integral stud.

The 1600 Gold Standard® low profile load cell is designed for calibrating other load cells where the best possible load cell is required. It has a 4% lower load limit per ASTM E74 and is a step above the 1100. Model 1600 provides both tension and compression in one unit.

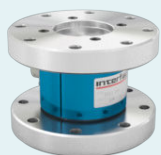
The 1601 Gold Standard® low profile load cell is designed for calibrating other load cells where the best possible load cell is required. It has a 4% lower load limit per ASTM E74 and is a step above the 1100. Model 1601 is compression-only.

The 1606 Gold Standard® load cell is designed for calibrating other load cells where the best possible load cell is required. It has a 4% lower load limit per ASTM E74 and is a step above the 1100. The 1606 is especially made for low capacity applications.

The 2200 is a Calibration Grade Column Load Cell that is lightweight and portable for use in the field. This product is also excellent for performing calibrations in the lab as well.

## Calibration Grade Torque Transducer

The 5500 Series Calibration Grade Reaction Torque Transducer features a rugged flange-style design, low deflection, high torsional stiffness and the ability to withstand large overhung moments. ASTM E2428 Calibrations are available on most capacities.



**5500 Calibration Grade**  
2K lbf-in to 300K lbf-in  
220 Nm to 33K Nm



**9840 Intelligent Calibration Grade Digital Indicator**  
Stores Multiple Calibrations



**9840-400-1-T-4 4-Channel Intelligent Indicator**  
Digital 4-Channel Intelligent Indicator



**9840TQ mV/V Input Torque Transducer Indicator**  
Digital and Intelligent mV/V Input Torque Transducer Indicator



## Calibration Grade Intelligent Indicators

The 9840 is suitable for use in calibration labs, field service, or anywhere high accuracy is important. This product's features include a bipolar 6-digit 2-line display, remote sense, low noise, 24-bit internal resolution, USB port with RS232 communication, mV/V calibration, store calibrations for up to 25 sensors. 6-point linearization, unit conversion and front-panel tare. This unit also has Self-calibration via TEDS Plug and Play ready IEEE 1451.4 compliance.

The 9840-400-1-T is suitable for use in calibration labs, field service, or anywhere high accuracy is important. This product's features include 2 Interactive 7" graphical touch screen displays, remote sense, low noise, 24-bit internal resolution, USB port with RS232 communication, mV/V calibration, store calibrations for up to 25 sensors. 6-point linearization, unit conversion and front-panel tare. This unit also has Self-calibration via TEDS Plug and Play ready IEEE 1451.4 compliance.

The 9840TQ is a TEDS template 33 & 40 (3-point linearization) Plug & Play Ready! IEEE1451.4 compliant with read and write capability mV/V input torque transducer indicator with lbf-ft, lbf-in, N-m and mV/V measurement units.

## Gold Standard® Calibration Software

- Testing and reporting per ASTM E74 and/or ISO 376 standards with optional software
- Automatically produces standard reports, graphs, and performance parameter calculations
- Ability to customize reports and graphs
- Automatically archives data
- Load points can be preset as required per your test specifications
- The Gold Standard® Calibration Software will provide exact load output at specific load points
- Datasets for loading are automatically organized to provide curve-fitting and low and high data point values for metrology-based error analysis
- Results from earlier runs can be compared, measured, and displayed with current run results



## Operations

### Load Cell Calibration:

In a typical two channel system, one channel is connected to the reference standard load cell and one channel is connected to the load cell being calibrated. The system can be set for up to 39 calibration points and will automatically record and archive the data and calculate the results. The 1600 or 1800 reference standard load cell and the load cell under test are placed in the load frame in series. The reference load cell is compared against the load cell being calibrated as the load is applied and each data point is automatically recorded.

### Test Machine Calibration:

The Gold Standard load cell is installed in the test machine. The test points and the number of runs are selected in software. The system automatically records the values from the Gold Standard load cell and 9840 while test machine readings are entered manually by the operator as loads are applied. At conclusion of the test the system displays the results and compares them to the E4 or ISO7500 standard.

# Interface Calibration Systems

- Load Frames
- Verification Frames
- Calibration Systems
- Precision Transfer Standards
- Calibration Grade Load Cells
- Calibration Grade Column Load Cell
- Calibration Grade Torque Transducer
- Calibration Software

*Interface force measurement calibration systems and related products 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.**



TEDS - Plug & Play Ready



USB Option Available



Software Available



**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.