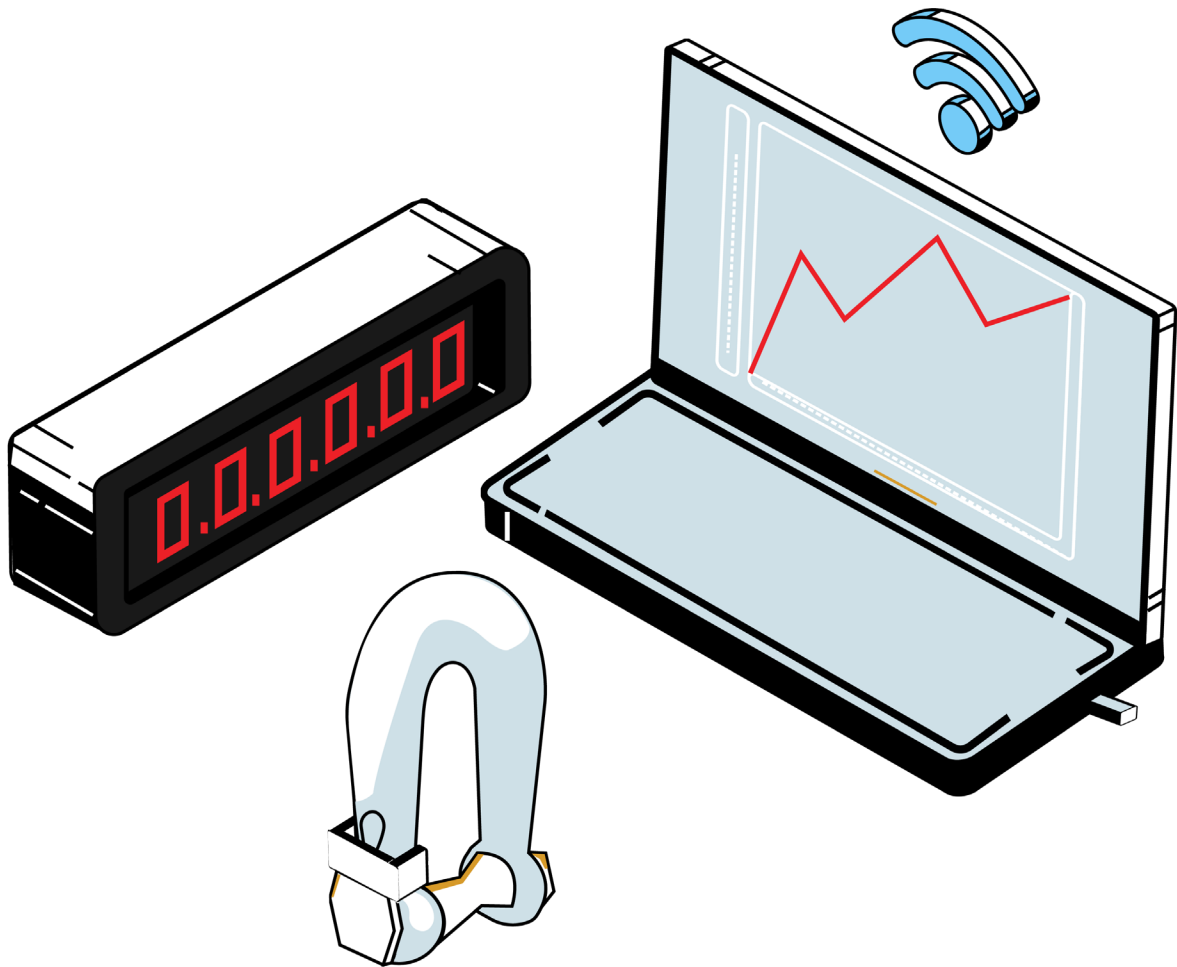


# Interface

## Weighing Solutions



WeighingSolutionsBrochure06/09/2023v.1.2

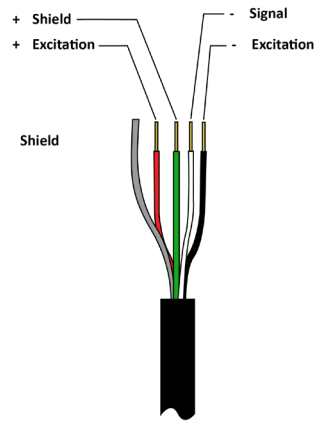
## Design and Engineering Insights

### Load Cell Wiring

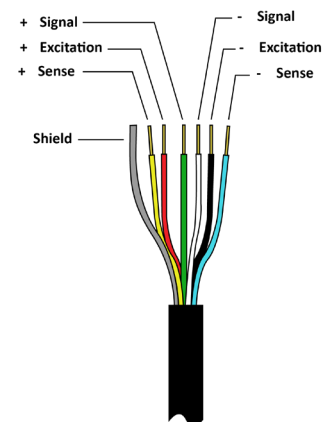
Most load cells have:

- 4 or 6 wires
- +/- Excitation
- Signal
- Sense

Sense wires are used in longer cable runs and sense load cell voltage. If there is a drop in voltage the indicator will adjust the excitation.



4 Wire Cable

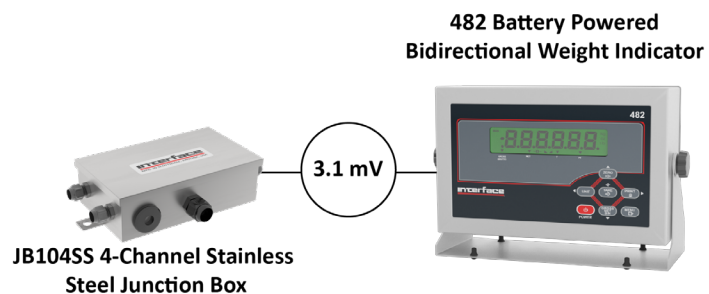
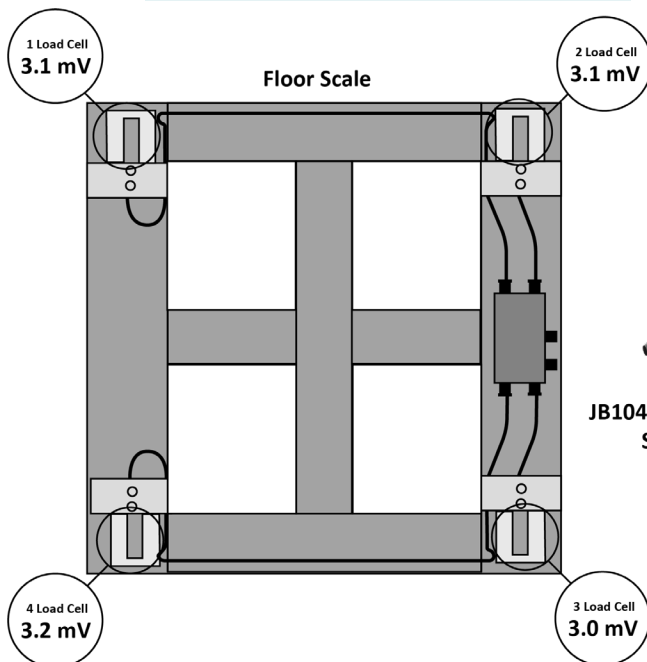
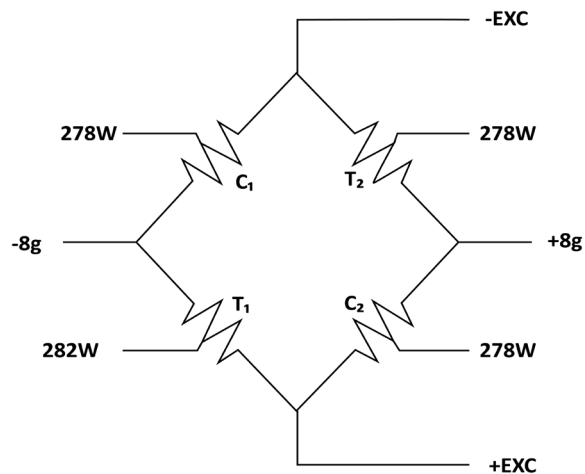


6 Wire Cable

### Troubleshooting

When experiencing an issue there are 4 places to check: instrument, load cells, junction box, and cables.

- Physical Inspection
- Zero Balance
- Bridge Resistance
- Resistance to ground



### Load Cell Trimming

Excitation trimming the old way, adds resistance to the excitation. The system load cell with the lowest output receives the full excitation voltage, while the other system load cells receive proportionately smaller excitation voltages. This creates matched outputs for all load cells in the system.

Signal trimming is the most common and popular type of trimming because it is the easiest to use. It involves adding a relatively high parallel resistance between the signal of each load cell, which creates a leakage path that diverts some of the available load cell signal away from the indicator. More load cell signal will be available to the indicator as parallel resistance increases.

## LowProfile® Load Cells



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



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

## Load Beam Load Cells



**MBP Overload Protected**  
**Miniature Beam Load Cell**  
2.5 lbf to 10 lbf  
5 - 10 N & 0.5 - 5 kg



**SSB Sealed Beam Load Cell**  
50 lbf to 10K lbf  
222 N to 44.48 kN

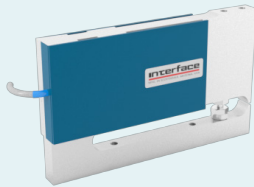


**MBI Overload Protected**  
**Miniature Beam Load Cell**  
2 lbf to 10 lbf  
10 N to 50 N

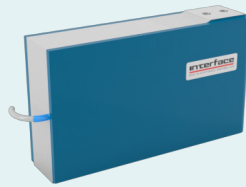


**MB Miniature**  
**Beam Load Cell**  
5 lbf to 250 lbf  
0.02 kN to 1.25 kN

## Platform Scale Load Cells

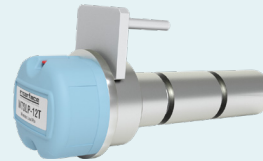


**SPI Low Capacity Platform Scale**  
**Load Cell**  
3 lbf to 15 lbf  
13.43 N to 66.72 N



**SPI High Capacity Platform Scale**  
**Load Cell**  
25 to 150 lbf  
111.2 to 667.2 N

## Load Pins

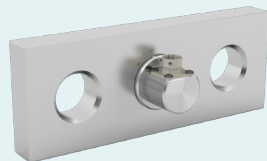


**WTSLP Wireless Stainless**  
**Steel Load Pin**  
Up to 3,000K lbf  
Up to 1,360 MT



**LP Stainless**  
**Steel Load Pin**  
Up to 3,000K lbf  
Up to 13.3 kN

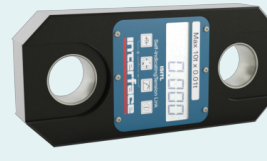
## Tension Link / Wireless Link Load Cells



**ITL Tension Link**  
**Load Cell**  
11K to 220K lbf  
5 to 100 MT



**WTSTL Wireless**  
**Tension Link**  
11K to 220K lbf  
5 to 100 MT



**ISITL Self-Indicating**  
**Tension Link**  
2.2K to 661K lbf  
1 to 300 MT



**WTSTL Lightweight**  
**Wireless Tension Link**  
2.2K to 661K lbf  
1 to 300 MT

## Load Shackles / Wireless Load Shackles



**ISHK-B Bow Type Crosby™**  
**Cabled Load Shackle**  
2.2K and 2205K lbf  
1 to 1K MT



**ISHK-D 'D' Type Crosby™**  
**Cabled Load Shackle**  
2.2K to 77.2K lbf  
1 to 35 MT

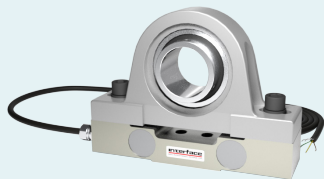


**WTSSHK-B Wireless Crosby™**  
**Bow Load Shackle**  
26.5K and 265K lbf  
12 to 120 MT

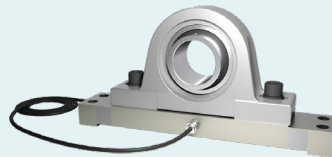


**WTSSHK-B-HL Wireless**  
**Bow Load Shackle**  
265K to 2205K lbf  
120 to 1K MT

## Pillow Block Load Cells

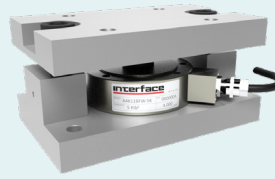


**PBLC1** Pillow Block Load  
Bearing Load Cell  
1.1K lbf to 6.7K lbf  
5 kN to 30 kN

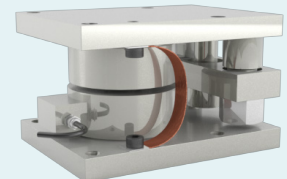


**PBLC2** Pillow Block Load  
Bearing Load Cell  
2.2K lbf to 11.2K lbf  
10 kN to 50 kN

## Weigh Modules



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



**WSSCLC-Mount**  
Weighing Assmely  
220 lbf to 440.9K lbf  
100 kg to 200 MT

## Indicators



**9870** High Speed High  
Performance TEDS Ready  
Indicator  
Nonlinearity 0.01% Full Scale  
24 Bit A/D Converter



**ISG** Isolated DIN Rail Mount  
Signal Conditioner  
±5VDC or ±10VDC Analog Output (4-  
20mA Optional)  
Accepts inputs up to 4.5mV/V



**9894** Analog Input  
Process Indicator  
Software Available for  
Setup and Logging



**9825** General Purpose Indicator  
Bipolar, High Speed

## Portable Displays



**9325-NU** Portable  
Sensor Display  
Portable, Digital, Hand Held, Battery  
Powered, TEDS Ready



**9320** Battery Powered High  
Speed Data Logging Indicator  
Digital, Hand Held, Battery Powered,  
TEDS Ready

## LED Displays



**WTS-LD1** Wireless  
Large LED Display  
Large Screen with 4-digit  
4 in (102 mm) LED display



**WTS-LD2** Wireless  
Large LED Display  
Large Screen with 6-digit  
4 in (102 mm) LED display

## Weighing Instrumentation



**1280** Programmable Weight  
Indicator and Controller  
150+ built-in functions for programming  
USB, Ethernet TCP/IP, Wi-Fi Direct® and  
Bluetooth® ports



**480** Bidirectional Weight  
Indicator  
Powers up to 10 Load Cells  
Measurement Rate up to 40Hz



**920i** Programmable Weight  
Indicator and Controller  
Power for 16, 350 ohms load cells per  
A/D board, Peak Hold  
32 scale accumulators

## Wireless and Bluetooth



**WTS 1200** Standard Precision  
LowProfile™ Wireless Load Cell  
300 lbf to 100K lbf  
1.5 kN to 450 kN



**WTS-BS-6** Wireless Telemetry  
Dongle Base Station  
Compact & Portable Logging  
Fast Configuration  
500m Wireless Range



**WTS-BS-1-HS** Wireless Display  
for Single Transmitters  
Simple operation  
Connection to single transmitter module

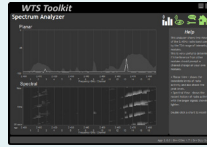


**BTS-AM-1** Bluetooth  
Telemetry System  
“AA” Battery Powered Bluetooth  
Strain Gage Transmitter

## Compatible Software



**Log 100 Software**  
Display, Logging, Graphing,  
& Mapping Software



**WTS Toolkit**  
Setup & Scaling, Logging,  
& Graphing Software



**Interface Telemetry Cloud Platform**  
Cloud platform offers browser based access to data collected



**BTS Toolkit**  
Free iOS and Android App

### WTS Toolkit

The WTS Toolkit is a software tool that allows communication with the WTS range of 2.4GHz telemetry products. A suitable telemetry to PC interface will be required such as a base station.

### BTS Toolkit

A free iOS and Android app is available for download. It enables BTS systems to be visualized on phones and tablets by using digital displays, gages, tanks and charts. Displayed data can be defined as mathematical expressions consisting of readings from multiple transmitters, functions and constants.

### Log 100

Log 100 has been designed to allow the logging and visualization of up to 100 channels of data from the WTS Wireless Telemetry sensor transmitters. This software is free to download and allows users to build a visual representation of a system and assign live readings. The built in web server provides a summary view page to other computers, tablets, iPads and smart phones etc. using a standard browser.

### Interface Telemetry Cloud Platform

Our new Cloud platform offers browser based access to data collected from the WTS telemetry instrumentation anywhere, at any time. Send data to the Cloud from our WTS sensors.

# Interface Weighing

- Overload Protected
- Beam Types
- Platform Types
- WeighCheck
- Mounting Assembly
- Bluetooth® Options
- Wireless Options
- Data Acquisition Modules
- LED Displays
- Weight Indicators
- Weight Controllers
- Signal Conditioners
- TEDS Ready

*Interface force measurement weighing products are available in many design configurations for project designs requiring the highest performance.*

**To learn more about the Interface products or weighing solutions call 480-948-5555.**

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

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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.

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