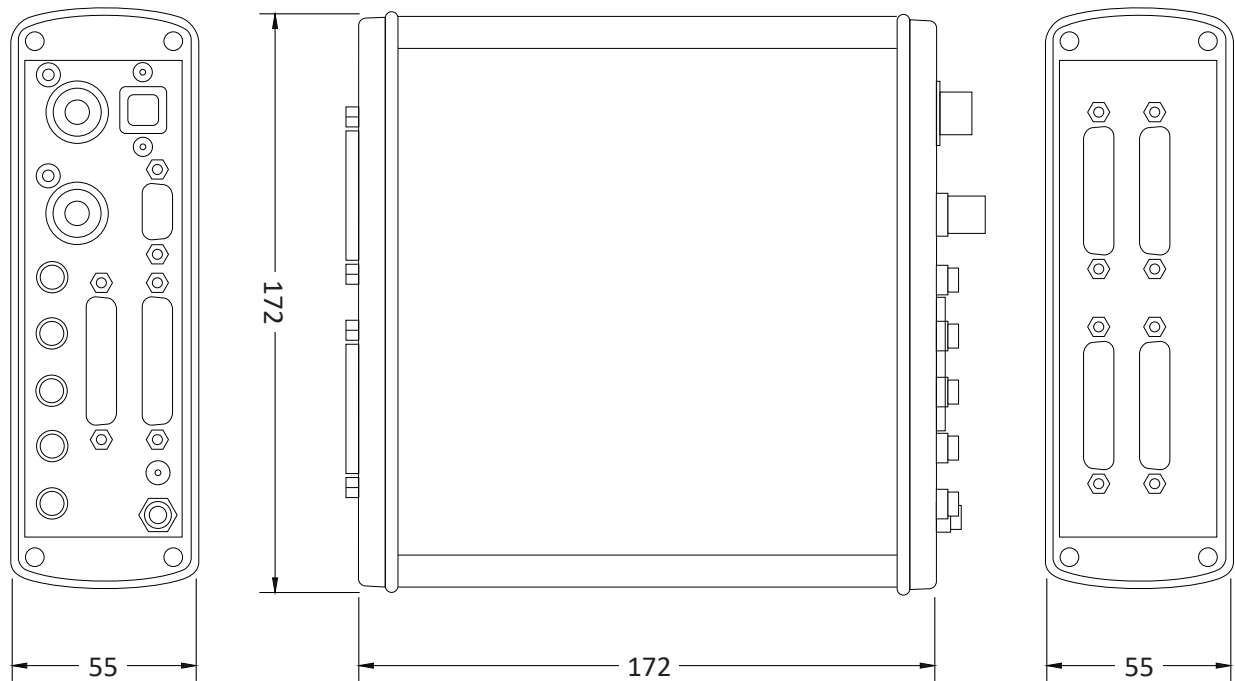
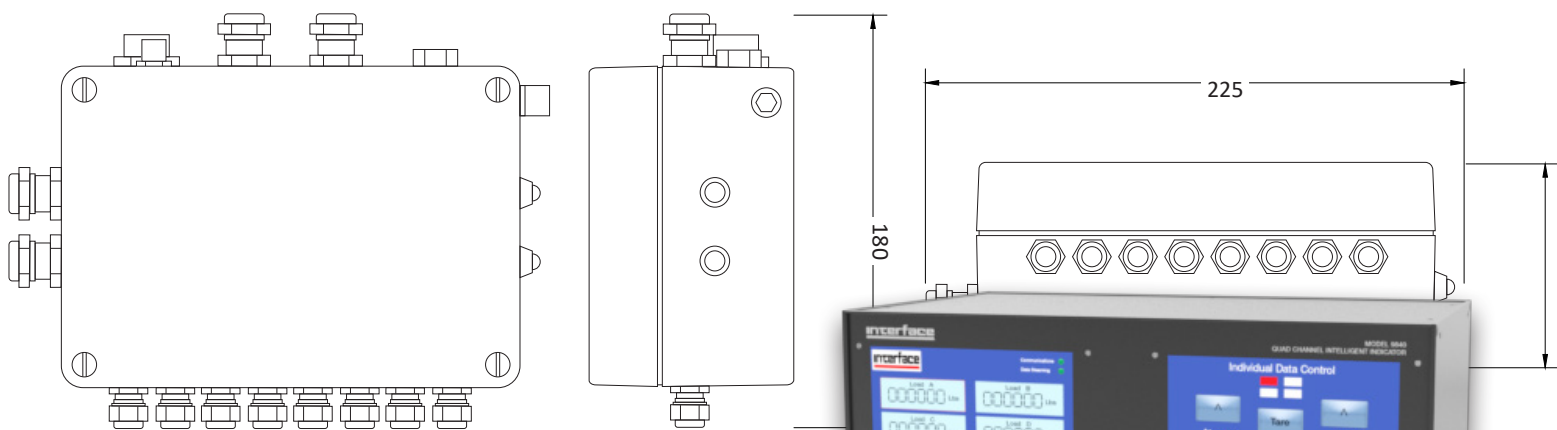


# Interface

## Instrumentation



Instrumentation v1.1.1 02-06-2020



# Interface provides instrumentation including signal conditioners, high speed data loggers, portable load cell indicators, weight indicators and junction boxes.

Many instruments are used in force measurement applications. We provide full data acquisition and wireless telemetry systems for load cell and torque transducers. Our multi-channel bridge amplifier has a 4-channel capability, while the INF-USB2 universal serial has a sensor to USB output converter.

## Excitation

- A Wheatstone bridge-based sensor, such as a load cell, requires excitation voltage to operate. The excitation voltage is typically 10V; however, many instruments supply lower voltage, an 2.5V, 5V, and others. Since these sensors are ratiometric, our instrumentation is a great match for these types of products.

## Signal

- The output signal from a load cell is expressed in terms of mV output per V of excitation, at capacity. For example, a 100 lb capacity load cell rated for 2 mV/V output will have 20mV output at 100 lb, when excited with 10V. Because the output signal is directly affected by input voltage, it's important to maintain a stable excitation voltage, which our instrumentation does.

## Signal Conditioner

- Provides stable excitation voltage to the sensor and amplifies the low-level sensor signal to a high-level output such as +/-5V, +/-10V, 0-20mA, 4-20mA, 0-5V, or 0-10V.
- Many of our products include filtering, which can help reduce noise in the output signal.
- Many data acquisition systems require high-level inputs such as +/-10V and don't work very well with low level mV signals but ours do.
- The DAQ doesn't necessarily supply a stable excitation voltage to the sensor but ours do.
- When selecting, some things to consider are power supply requirements, amount of filtering, fixed or adjustable filtering, input range, scalability and zero adjustment range. Our instrumentation can accommodate these requirements.

## PC Interface Modules

- Converts the low-level mV/V sensor signal to a digital format that can be transmitted to a PC.
- Popular interface modules provide USB, wireless USB, or Bluetooth data transmission.
- Software is normally provided and allows data display, logging and/or graphing.
- Commonly used when data needs to be logged to a PC and a the customer doesn't already have an existing data acquisition system.
- Advantages over standard data acquisition is ease of use and they are normally plug-n-play.
- Considerations include bit resolution, number of channels, sample rate, software features and type of output.

## Indicators

- Provides stable excitation voltage and converts the sensor signal to a digital display.
- Commonly available features include analog or digital output, selectable digital filtering, peak and valley monitoring and set point outputs.
- Things to consider when selecting an indicator are internal sample rate and update rate of analog output.



**480 Bidirectional Weight Indicator**

Digital and Environmentally Protected



**920i Programmable Weight Indicator/Controller**

Digital and Programmable



**9320 Battery Powered Portable Load Cell Indicator**

Digital, Hand Held, Battery Powered, TEDS Ready



**9330 Battery Powered High Speed Data Logging Indicator**

Portable Display



**9390 Battery Powered Weight Indicator**

Battery Powered



**9840 Calibration Grade Multi-Channel Load Cell Indicator**

Digital and Intelligent



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

Digital and Intelligent



**9850 Torque Transducer and Load Cell Indicator**

Digital and Multi-Channel



**9860 High Speed Digital Indicator**

Software Available for Setup and Logging



**9890 Strain Gage, Load Cell, and mV/V Indicator**

Software Available for Setup and Logging



**9894 Analog Input Process Indicator**

Software Available for Setup and Logging



**LCT-1 Load Cell Troubleshooting Instrument**

Load Cell Test Instrument



**BSC4 Multi-Channel Bridge Amplifier and PC Interface Module**

4-Channel Capability



**BX8 8-Channel Data Acquisition System and Amplifier**

Software Available for Setup, Logging, Graphing, and Matrix Calculations



**CSC/LCSC OEM Inline Signal Conditioners**

In-line Load Cell Amplifier



**VSC Vehicle Powered Signal Conditioner**

Vehicle Compatible



**DMA2 DIN Rail Mount Signal Conditioner**

Strain Gage Transducer Bridge Input Amplifier



**ISG Isolated DIN Rail Mount Signal Conditioner**

Galvanically Isolated



**SGA AC/DC Powered Signal Conditioner**

Strain Gage Transducer Amplifier



**JB104SS 4-Channel Stainless Steel Junction Box**

4-Channel Summing



**WTS-AM-1E** Wireless Strain Bridge Transmitter Module  
For Strain Bridge Input



**WTS-AM-1F** Wireless Strain Bridge Transmitter Module  
For Fast Measurements



**WTS-AM-2** Wireless Voltage Sensor Transmitter  
For Voltage Input



**WTS-AM-3** Wireless 4-20 mA Transmitter Module  
For mA Input



**WTS-BS-1** Wireless Handheld Display For Unlimited Transmitters  
Roams Between Transmitters in Range



**WTS-BS-1-HA** Wireless Handheld Display for Multiple Transmitters  
Provides Summation of Up to 12 Transmitters



**WTS-BS-1-HS** Wireless Handheld Display for Single Transmitters  
Simple Operation



**WTS-BS-3E** Wireless Base Station with USB Interface  
Comes with WTS Toolkit Software and Log 100 Software



**WTS-BS-4** Wireless Base Station with USB Interface in Industrial Enclosure  
Includes WTS Toolkit Software and Log 100 Software



**WTS-BS-5/DT** Wireless Analog Output Receiver Module  
Provide Analog Output for WTS Acquisition Modules



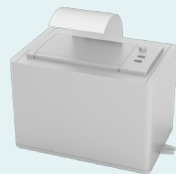
**WTS-BS-6** Wireless Telemetry Dongle Base Station  
Includes WTS Toolkit Software and Log 100 Software



**WTS-LD1** Wireless Large LED Display  
Large Screen with 4-digit 4 in (100 mm) LED display



**WTS-GW1** Wireless Gateway with Modbus and ASCII Serial Output  
Capable of Gathering Data from Up to 100 Acquisition Modules



**WTS-PR1** Wireless Telemetry Printer  
Prints Screen from the Handheld WTS-BS-1-HA



**WTS-RDC** Wireless Remote Data Collection  
Wireless Input Range of Up to 2,625 ft (800 m)



**WTS-RM1** Wireless Relay Output Receiver Module  
Accepts Up to 16 Devices



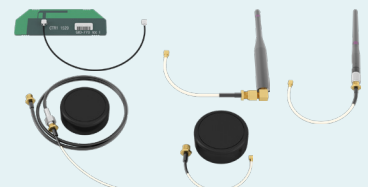
**WTS-SO** Wireless Interface with ASCII Serial Output  
Serial Output to Printer, Display, PC or PLC



**WTS-WSS** Wireless Wind Speed Transmitter Module  
Constantly Monitors Average Wind Speed



**WTS-AR** Wireless Repeater Module  
Extends and Enhances Range of WTS Devices



**WTS-ANTA/ANTB/ANTC/ANTD/ANTE** Telemetry Antenna Options  
Compatible WTS Products Only



**BTS Bluetooth Telemetry System**  
Bluetooth Strain Gage Transmitter



**DIG-USB USB Output Module**  
PC Interface Module



**DIG-USB-F Fast USB Output Module**  
Fast PC Interface Module



**INF-USB2 Universal Serial Bus Single Channel PC Interface Module**



**SI-USB Universal Serial Bus Dual Channel PC Interface Module**

## Wireless Telemetry System (WTS)

- Easy-to-use wireless data communication between a load sensor and a receiving indicator.
- Capable of receiving multiple inputs.
- Fully compatible with all Interface force sensors.
- Comes calibrated, tested and ready-to-run.
- Lasts up to 3 months using AA batteries.

## Interface Instrumentation Software

- BlueDAQ
- Model 9850
- DIG-USB Toolkit
- DIG-USB-F Toolkit
- INF-USB2-VS
- SI-USB-VS
- MeterView Pro
- T-Software
- Log 100
- WTS Toolkit

## Instrumentation Definitions

	<i>Instrument</i>	<i>Indicator</i>	<i>Signal Conditioner</i>	<i>PC Interface Module</i>	<i>Graphing</i>
<b>WTS</b>	✓	✓	✓	✓	✓
<b>9860</b>	✓	✓	✓		
<b>9850</b>	✓	✓	✓		
<b>9840</b>	✓	✓			
<b>9894</b>	✓	✓	✓		
<b>9890</b>	✓	✓	✓		
<b>9390</b>	✓				
<b>9320</b>	✓				
<b>480</b>	✓	✓			
<b>INF-USB2</b>			✓	✓	
<b>SI-USB</b>			✓	✓	
<b>BSC4</b>		✓	✓	✓	
<b>DMA</b>		✓			
<b>VCA</b>		✓			
<b>SGA</b>		✓			
<b>ISG</b>		✓			
<b>CSC</b>		✓			
<b>LCSC</b>		✓			

# Interface Instruments

- Digital Indicators
- Signal Conditioners
- Digital Output Indicators
- Analog Indicators
- USB Interface Modules
- Data Acquisition
- Junction Boxes
- Acquisition Modules
- Wireless
- Repeater Modules
- Modbus
- LED Displays
- Remote Data Collection

*Interface force measurement instruments 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.