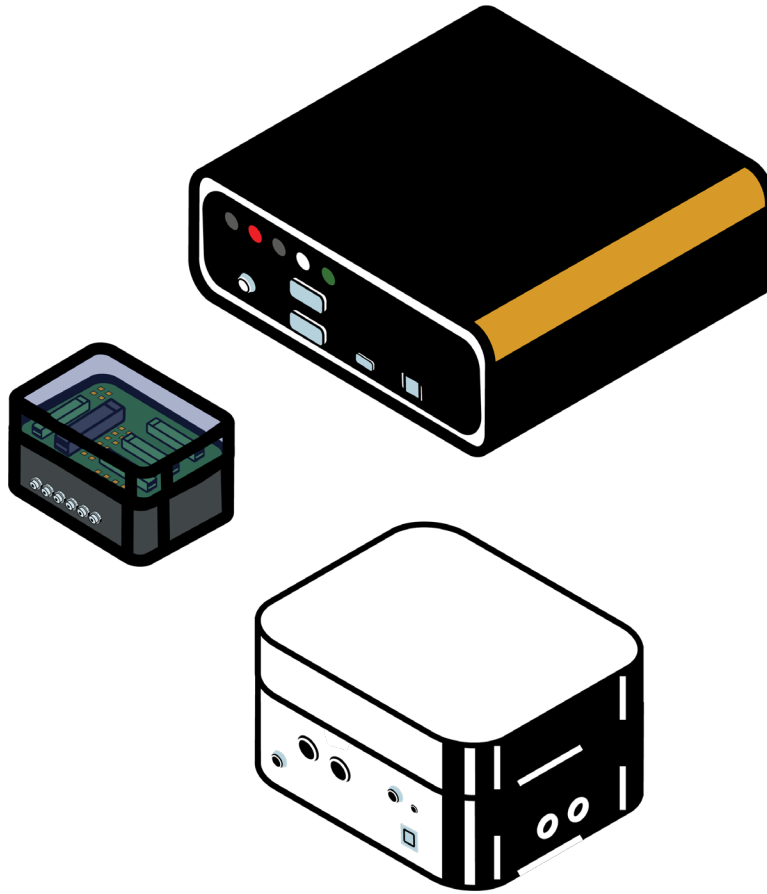# Interface
Instrumentation

1280 lb

INTERFACE
FORCE MEASUREMENT SOLUTIONS.

The World Leader in Force Measurement Solutions™

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-USB3 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. A signal can also be a voltage or mA signal as well.

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.

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 will all Interface force sensors.
- Comes calibrated, tested and ready-to-run.
- Lasts up to 3 months using AA batteries.

Instrumentation Definitions

Instrument	Indicator	Signal Conditioner	PC Interface Module	Graphing	Logging
480	✓	✓			
482	✓	✓			
920i	✓	✓			
9325	✓			✓	✓
9330	✓	✓		✓	✓
9825	✓	✓			
9840	✓	✓			
9850	✓	✓			
9870	✓	✓		✓	
9890/9894	✓	✓			✓
1280	✓	✓			
BSC4A		✓			
BSC4D			✓	✓	✓
BTS	✓			✓	
BX6-BT			✓	✓	✓
BX8		✓	✓	✓	✓
CSC/LCSC		✓			
DIG-USB/DIG-USB-F			✓	✓	✓
DMA2		✓			
INF-USB3			✓	✓	✓
INF1	✓	✓			
INF4	✓	✓			
ISG		✓			
SGA		✓			
SI-USB4			✓	✓	✓
VSC2		✓			
WTS	✓	✓	✓	✓	✓

480 Bidirectional Weight Indicator
Digital, Environmentally Protected

4850 Battery Powered Bluetooth Weight Indicator
Digital, Environmentally Protected, Battery Powered, Bluetooth

920i Programmable Weight Indicator & Controller
32 scale accumulators
Millivolt calibration
5-point linearization & geographical calibration

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

9330 Battery Powered High Speed Data Logging Indicator
Portable Display

9825 General Purpose Indicator/ 9825-AI General Purpose Analog Input Indicator
Bipolar, High Speed, Analog

9840 Calibration Grade Multi-Channel Load Cell Indicator
Digital and Intelligent

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

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

9850 Torque Transducer & Load Cell Indicator
Digital and Multi-Channel

9870 High-speed High Performance Teds Ready Indicator
High Speed, Digital Indicator

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

1280 Programmable Weight Indicator & Controller
Analog load cell scales
Total scales
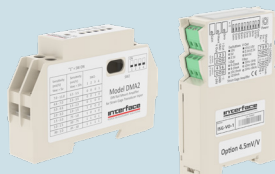Serial scales
Program scales

INF1 Single Sensor Weight Transmitter & Indicator
RS485, Analog, CANopen, PROFIBUS, Modbus/TCP, Ethernet TCP/IP, Ethernet/IP, PROFINET IO, EtherCAT4

INF4 Two, Three, & Four Sensor Weight Transmitter & Indicator
RS485, Analog, CANopen, PROFIBUS, Modbus/TCP, Ethernet TCP/IP, Ethernet/IP, PROFINET IO, EtherCAT4

CSC/LCSC OEM Inline Signal Conditioners
In-line Load Cell Amplifier

DMA2/ISG DIN Rail Mount Signal Conditioner
10-28VDC Power
High Accuracy

SGA AC/DC Powered Signal Conditioner
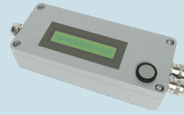Strain Gage Transducer Amplifier

VSC2 Rugged Compact Vehicle Powered Signal Conditioner
Vehicle Compatible

DIG-USB/DIG-USB-F USB & Fast
USB Output Module
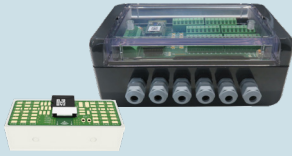Configuration, Calibration, Graphing,
Logging, & Display Software

BSC1/BSC2/BSC4 Multi-Channel
Bridge Amplifier or PC
Interface Module
1 Channel
2 Channel
4 Channel

BSC1-HD Single Channel
PC Interface Module
with Analog Output
Single Channel

BSC4D-BT Portable 4-Channel
Bluetooth Data Logger
4 Channel

BX6-BT/ BX6-OEM Portable
6-Channel High Speed
Bluetooth® Data Logger
Compact Size
Digital Inputs & Outputs

BX8 Data Acquisition
& Amplifier System
8 Channel

INF-USB3/SI-USB4
PC Input Module
Single & Dual Channel
mV/V, VDC, or mA Input

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

JB1100 4-Channel Advanced
Signal Conditioning
Transmitter Indicator
& Junction Box
Four independent scales
or four load cell inputs

BTS Bluetooth
Telemetry System
Bluetooth Strain
Gage Transmitter

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

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

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

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

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

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

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

Interface
Instruments

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

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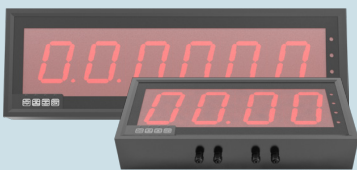Extends and Enhances Range of WTS Devices

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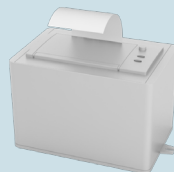Comes with WTS Toolkit Software and Log 100 Software

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

WTS-LD1/ WTS-LD2 Wireless Large LED Display
Large Screen with 4-digit/6-digit 4 in (100/102 mm) LED display

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

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

- 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.

Instrumentation Software

- BlueDAQ Software
- DIG-USB Toolkit
- DIG-USB-F Toolkit
- Log 24 Software
- Log 100 Software
- INF-USB-VS 3 Software
- MeterView Pro Software
- T-USB-VS Software
- WTS Toolkit
- BTS Toolkit

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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.