

Interface

Instrumentation



Instrumentation v1.7 10-23-2025

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 with 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		✓			
BTS	✓			✓	
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



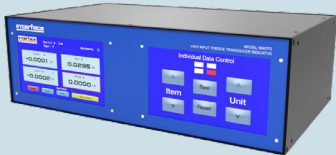
9840 Calibration Grade Multi-Channel Load Cell Indicator

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



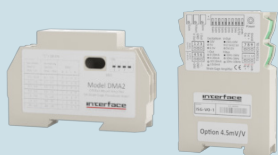
INF1/INF4 Single, Two, Three, & Four Sensor Weight Transmitter & Indicator

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



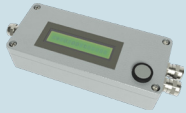
VSC2 Rugged Compact Vehicle Powered Signal Conditioner

Vehicle Compatible



DIG-USB/DIG-USB-F USB & Fast USB Output Module

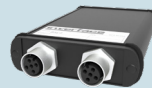
Configuration, Calibration, Graphing, Logging, & Display Software



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



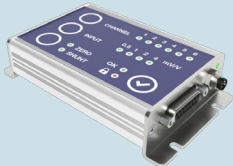
BSC1A Strain Gage Amplifier
1 Channel



BSC2 Dual Channel
PC Interface Module
2 Channel



BSC4A Multi-Channel Analog
Output Bridge Amplifier
4 Channel



BSC6A-HD44 6-Channel Strain
Gage Amplifier
6 Channel
Analog Output



BX6-ETH/CAN 6-Channel
CANbus and Ethernet
Strain Gage Amplifier
6-Channel Capability



BX6-HD44-ECP Strain
Gage Amplifier with
EtherCat Protocol
6 Channel



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/WTS-AM-1F
Wireless Strain Bridge
Transmitter Module
For Strain Bridge Input and



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



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



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



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



WTS-BE-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



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



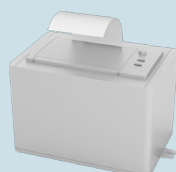
WTS-GW1 Wireless Gateway with Modbus and ASCII Serial Output

Capable of Gathering Data from Up to 100 Acquisition Modules



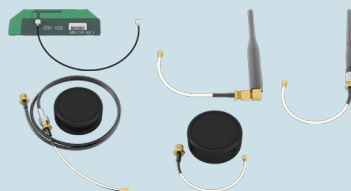
WTS-LD1/ WTS-LD2 Wireless Large LED Display

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

Compatible WTS Products Only

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.