



Acceleration



**Angle & Tilt** 



Displacement



Flow



**Force** 



Sensors

## Custom Transducers

## Strain Gages & Installation

# Data Acquisition & Signal Conditioning

Wireless/ Telemetry

Vibration & Environmental Test

OEM &
Contract
Manufacturing

Pressure



Sound



Strain



**Temperature** 



**Torque** 



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- Strain gages, bondable resistors, installation, accessories & training
- StrainSmart Systems, Signal conditioners, portable strain indicators







Custom force, torque & strain measurement:

- Custom strain gage installation on components
- Field & lab services for strain measurement & data acquisition
- Custom transducer design & calibration





- Load Cells & Force sensors
- Torque sensors: reaction, rotating & wireless
- Multi-axis transducers
- Instruments: Digital displays & hand-held meters
- Calibration systems & services





Hydraulic Testing Cylinders for Every Frequency and Range

- Compact hydraulic actuator construction
- High stability and rigidity
- High speeds and frequencies
- Efficient for varying test series





State-of-the-art, non-intrusive Digital Image Correlation (DIC) optical tool for shape, strain and deformation analysis of solid, granular and liquid subjects.





Pressure & level solutions for municipal, industrial, & process markets:

- Sensors for hostile service including slurries
- Submersible pressure & level sensors





Self-Aware™ Programmable inches-of-water sensors, for Industrial, Medical and HVAC applications. A new generation of differential pressure sensors, based on NimbleSense™ ASIC technology, which provides an alert mechanism of potential performance issues, before system-alarm incidents occur. Higher accuracy and turn-down ratios, lower total-error-band, with the industry's lowest noise floor.



Thin-film tactile pressure & force measurement for gaskets, seals, grip/ergonomics, seating/bedding, brakes, tires, roller-nip & many other applications.





- Dynamic/Piezoelectric sensors: acceleration, force & pressure
- Impulse hammers, sensor signal conditioners, & sensor cables
- Calibration Services for dynamic sensors from all manufacturers



GRAS

Specialists in high performance measurement Sound microphones & related acoustic accessories for & Vibration automotive, aviation & aerospace.





- Advanced vibration test equipment: Electro-dynamic shakers, slip tables, head expanders and multi-axis shakers.
- Environmental test chambers including: temperature, humidity, thermal shock, & altitude chambers.





Vibration test controls for electrodynamic & servo-hydraulic shakers:

- Test modes: Sine, Random, Shock, SoR, RoR, SRS, & more
- Features: Fatigue Damage Spectrum, Kurtosion, Field Data Replication, Transient Capture, & more



Ethernet/EtherCAT-based data acquisition and control solutions (24-bit, 100kHz A/D per channel) for test cells, test labs, portable/in-vehicle, & stand alone/data-logger applications.





High performance data acquisition including:

- Synergy multi-mode systems: recorder, scope, spectral, modal, & combustion analyzer
- Echelon in-vehicle DAQ: I/O, CAN, GPS, & video. IP-68







- StrainSmart® high performance data acquisition instrument utilizing strain gages and related sensors for stress analysis testing.
- High-speed, high-channel count signal conditioning & data acquisition solutions for aerospace, military, research testing applications.



## OEM/Custom Sensors & Contract Manufacturing



Custom manufacturer of wire harnesses, ADVANTAGE COMPONENTS INC interconnects, cable & wire assemblies including over-molding.



· High-accuracy position, thickness, & surface measurements



OEM manufacturer in sensor technology, HMI interfaces, & mechatronics, specializing in advanced-level sensors, encoders, rotary switches, customizable buttons, and solenoids for medical, appliance, industrial, and mobility applications.



Non-contact capacitive displacement sensors, gap sensors, bore gauges, parallelism and density sensors with matching capacitance amplifiers, data acquisition systems, linearization & display



Custom OEM force, pressure & torque

- Sensor design & manufacturing
- Amplifiers & integrated electronics
- OEM transducer manufacturing





• LVDT displacement transducers for all

Displacement





Global Contract Manufacturers and Product Design

- Designers and manufacturers of electrical and mechanical assemblies
- Supply chain, Quality, and Project Management



Eddy current non-contact position and displacement sensors



#### Flow



Flow meters: Turbine, Coriolis, magnetic, positive Badger Meter displacement, oval gear, & more.

- COX precision turbine flow meters for gases &



FLOW DYNAMICS NVLAP flow calibration services

### Wireless/Telemetry



The smallest, lightest, most power efficient, wireless measurement systems for torque, acceleration and other sensing application.



### **Temperature**



Thermocouples: general purpose, hand-held, RTD. and industrial probes. In addition to our standard products, we can also custom design and build probes to your specifications.



#### · Wireless telemetry

- ■ Strain gage amplifiers & signal conditioners
  - · Indicators & digital display electronics





- Temperature transmitters: 4-20mA, HART, &
- signal conditioners, digital indicators, & closed-loop controllers for temperature applications



## Servo-Control/ Special Test



- Motorized Material Testing for physical strength properties testing
- Motorized Product Testing Stands for static/monotonic force or torque testing





Sequential Logic Controller providing flexible, programmatic control of motors, solenoids, relays, heaters



Non-contact vibration measurement instrumentation & engineering services. Single point & scanning laser vibrometer

