

# PRECISION ROBOTICS & AUTOMATION

( The Technological Deal With Automation ... )



## PRODUCT RANGE

- Sensors & Instrumentation
- Data Acquisition & Data Logging
- Mechatronics & Robotics
- Factory Automation
- Embedded System Development
- Closed-Loop Controls
- Testing & Verification Systems



## Draw Wire Sensor ( PDW Series )

PDW Series Draw-wire displacement sensors measure linear movements using a highly flexible steel cable. It provides digital position and speed information (up to 3000 mm measurement range) in a durable, easy-to-install package. Draw wire sensor is a simple solution to measure linear speed and position.

The sturdy measuring cable (also referred to as the string or wire) is made of special stainless steel for ultimate strength. The PDW Series' compact profile and IP66 rating makes this a perfect solution to a variety of industrial linear measurement challenges, whether involved in concrete cutting, controlling hydraulic cylinders, metal grinding, or having an awkward access area for measurement.

Measurements are performed with high accuracy and high dynamic response. The use of high quality components guarantees a long life cycle and high operational reliability



## Torque Verification System / Torque Measurements ( PTS Series )

Controlling torque is quintessential for companies to ensure that product's quality, safety and reliability isn't compromised. Insufficiently torqued fasteners can vibrate loose over-time and when excessively torqued the threaded fasteners can strip. Using a quality torque tester has become increasingly important for many companies to secure that proper torque is being applied.

The PTS Torque Tester is built for accuracy and reliability ever demanded for these kinds of products. This tester accurately measures torque for most tools, meeting the demands to test multiple torque ranges for various tools used in production. The analyzer features a built-in transducer and supports most external size transducers. PTS system have of operation (Track, Peak + and Peak -) this versatile analyzer provides the operator a variety of ways to smoothly verify torque applied with a selection of four measuring units.



## Digital Telemetry Rotary Torque Sensor ( PTT Series )

The PTT Torque Transducers measure constant and variable torque at the wide measuring range and the wide range RPM. They are designed without bearings and without slip-rings.

Operating on the strain gauge principle, No bearings, no slip-rings construction Measurement of static and dynamic torque, Contactless transmission of data by means of the digital telemetry, Inductive power supply of the rotor, Built-in speed measurement system, Analogue, digital and frequency output.

The MS-Windows software for measurement data acquisition and processing



## Linear Displacement Sensor ( PLS Series )

Precision's PLS Series LVDTs operate using a non-contacting transduction principle providing friction free motion and infinite resolution. This principle has been refined through manufacturing and test technology, to make our LVDTs the Industrial standard for length and position measurements in various application.

The PLS Series LVDTs are designed to order per the end-users application specific requirement. Non-Linearity of PLS Series LVDT is 0.001% of full scale.





## Motor Torque Sensor ( PRTS Series )

### A New System for Accurately Measuring Torque with RPM

Precision Develops torque sensor for Various motors. Model PRTS-06M is reaction torque sensor Adapter that replaces the motor's mounting plate in the assembly machine. There are No modifications required in the existing mechanism . The Model PRTS-06M torque sensor is very precisely designed to serve a double role. First, it allows the motor to be mounted properly in the existing Testing rigs or assembly line. Secondly, by creating a torque sensing structure within the limitation of the mounting plate, it can provide a continuous feedback torque and RPM from the motor control module.

This is a only concept that will work with a wide range of motors eg. Stepper motors, Induction Motors Exhaust Fans where rotary torque sensor or pulley torque sensor isn't option to fit in, due to space limitations.



## Dynamic Strainage Extensometer ( PSEx Series )

A High precision strain gauge extensometer, designed for a wide range of materials including metals, plastics, composites and ceramics. The PSEx-10M extensometer operates in tension, compression and cyclic testing modes. Its dual flexure design permits higher frequency operation, while eliminating sensitivity to vibrations. The extensometer is supplied with an attachment kit nto allow quick, one hand mounting to the sample.

### FEATURE :

- Wide Selection of gauge length extenders
- Meets ASTM E83 Class B-1, ISO 9513, Class 0.5
- Simple one hand mounting to sample



## Precision Accelerometer ( PA -DxxxGY Series )

Precision Robotics & Automation manufactures precision accelerometers to measure acceleration, vibration, shock, and motion for monitoring, control, and Automotive testing applications. Precision's single axis, double axis and three axis accelerometers most commonly used in Impact Testing, Structural Testing, Test and Instrumentation, Environmental Testing, Vehicle Testing applications.

### FEATURE :

- Static and Dynamic Measurement
- Frequency Response from DC to 3000 Hz
- 1 g ro 200 g range



## Earth Pressure Cell ( EPC Series )

Precision Robotics & Automation Manufactures Earth Pressure Cells, designed to measure total pressure in earth fills and embankments ( in transportation, a raised bank to carry a road, railway, or canal across a low-lying or wet area. Embankment dam, a dam made of mounded earth and rock, Land reclamation along river banks, usually marked by roads and walkways running along it, parallel to the river).

Changing earth pressure squeezes the two plates together causing a corresponding increase of fluid pressure inside the cell. High precision pressure transducer converts this pressure into an electrical signal which is transmitted to the readout location.



## Strain Gauge Based Total Earth Pressure Cell ( EPC-S

### A New System for Accurately Measuring Total Earth Pressure

Precision Robotics & Automation Manufactures Earth Pressure Cells, designed to measure total pressure in earth fills and embankments ( in transportation, a raised bank to carry a road, railway, or canal across a low-lying or wet area. Embankment dam, a dam made of mounded earth and rock, Land reclamation along river banks, usually marked by roads and walkways running along it, parallel to the river).

Strain gauge Pressure Cells measure total stresses in soils and is a combination of effective stress and pore water pressures. They are normally used to validate design assumptions and to give adequate warning of soil pressures in excess of those designed to be exerted by a structure.



## Socket Wrench Torque Sensor ( PWT-2K )

The Precision Robotics' socket wrench Torque Sensors for use with converts any wrench to a torque measurement tool or component of a torque testing system for special applications. These sensors are amazingly accurate and ideal for testing applications and removal torque on bolts, nuts, sockets, extensions, universal joints and other fasteners. The Precision Socket Wrench Torque Sensors are bi-directional, so both tightening and break-away torque can be measured.

It is the perfect torque testing tool for bolt torque testing in a production environment. Torque sensors for electronic torque meters are sold separately.

Socket wrench torque sensor is excellent for numerous application in Automotive, Aerospace, Tool-room and other industries.



## Low Profile Pancake Type Load Cell (LPS-05U)

The LPS-05U Series of Low Profile/pancake Load Cells has been designed to suit a wide range of applications including high accuracy load weighing, fatigue testing, component and structural test rigs and general purpose laboratory force measurement testing.

LPS series of low profile/pancake load cells are manufactured in stainless steel. They can operate in both tension and compression.

The LPC load cell design can be modified to suit your exact requirements, with alternative threads, custom dimensions and customer-specific capacities. This Load cells commonly used in materials testing and component fatigue testing applications for axial force measurements where a high accuracy, low-profile device is required.



## Digital Indicators, Controllers, Readouts , Data Loggers and Process Instruments

### Every Good Sensor or Transducer Requires Good Instrumentation.

Precision Robotics & Automation Manufactures wide range of Digital Indicators, Readouts, Data loggers, and Processor instruments.

This indicators are used in Load, Torque, Force, Pressure, Volt, Frequency, Acceleration, Tilt, Displacement, Vibration, RPM, Rotation, Vacuum, Length, LVDT, Flow Velocity, Sound & Acoustics, Distance, Position, Density, Levels, Thermal , Heat & Temperature, Angle, Humidity, Environment, Weather, Impact, Optical & Light, Proximity, Capacitance , Inductive, Counting, Watt, Efficiency, and Time.



## Vibration Sensor ( PVM-2A )

### A New System for Machine condition monitoring & Controls

The PVM-2A is a low-level vibration Sensor. PVM-2A is optimized to monitor non-intentionally vibrating machinery for the effects of imbalance, misalignment, looseness or wear (e.g. bearings and vibratory conveyors, hammer-mills) for the effects of imbalance, excessive load, mechanical failure.

The isolated transistor or relay output may be wired for machine shutdown or as part of an early warning system. The trip-point vibration Direction can be either X - Y or Omni direction. The trip-point setting range is 0.1 to 2.2 in/s settable.

The PVM-2A is designed per ISO 10816-1 Mechanical Vibration - Evaluation of machine Vibration by measurements on non-rotating parts for conditioning monitoring.



## Weldable Strain Gauge ( Embedment Strain Gauge ) WSG-P

The Precision Robotics' Arc-weldable strain gauges are used to measure strain in steel or strain in concrete and masonry structures or measure strain in reinforced concrete and mass concrete. Typical applications include:

- Monitoring structural members of buildings and bridges during and after construction.
- Monitoring load in struts used to brace deep excavations.
- Measuring strain in tunnel linings and supports.
- Monitoring areas of concentrated stress in pipes.
- Monitoring distribution of load in pile tests.



## Strain Gauge Based Mini Total Earth Pressure Cell (EPC-L)

Precision Robotics & Automation Manufactures Earth Pressure Cells, designed to measure total pressure in earth fills and embankments ( in transportation, a raised bank to carry a road, railway, or canal across a low-lying or wet area. Embankment dam, a dam made of mounded earth and rock, Land reclamation along river banks, usually marked by roads and walkways running along it, parallel to the river).

EPC-L Mini Strain gauge Pressure Cells measure total stresses in soils and is a combination of effective stress and pore water pressures. They are normally used to validate design assumptions and to give adequate warning of soil pressures in excess of those designed to be exerted by a structure



## Multi axis Force Sensors for Fx, Fy, Fz, Mx, My, & Mz. (PMX-3XT)

PMX Series Multi-axis force sensor is able to measure the outputting forces and torques from all three Cartesian coordinates (x, y, and z). A six-axis force/torque sensor is also known as a multi-axis force/torque sensor, multi-axis load cell, or six-axis load cell.

PMX Series Multi-axis force sensor are used throughout industry for product testing, robotic assembly, dental research, lathe tool, mill tool, grinding and polishing. In research, our sensors are used in robotic surgery, haptics, rehabilitation, neurology and many other applications. PMX Series Multi-axis force sensor is capable of simultaneously measuring the three forces and three moment components of the sensor.



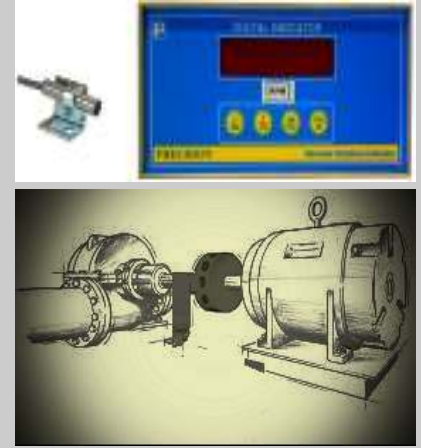
## Reverse Shaft Rotation Detector, Protector ( PRD-2K)

### A New System for Machine condition monitoring & Controls

High Service Pumps are widely used in wide verity of water utilities. These pumps typically have Very great in siz. The pumping capacity and are driven with high horsepower motors. While they normally operate reliably, unchecked backpressure can lead to severe pump damage when a pump is started during a reverse rotation condition

To help prevent this problem, Precision Robotics & Automation developed the PRD-2K to detect shaft reversal in pumps. The system features a failsafe reversal switch that constantly monitors a pump shaft to assure that it's turning in the correct rotational direction.

Relay contacts in the unit can be used to electrically lock out the starting circuit of the pump to prevent accidental start-up during a condition of reverse rotation.



## Microprocessor Based Digital Bomb Calorimeter ( O2-CAL M )

### Microprocessor based Measurement of Heat of Combustion of a Solid Fuel Using Oxygen Bomb Calorimeter

PRECISION's O2 CAL-M bomb calorimeters are widely used for determining the accurate calorific value of liquid and solid samples automatically. Never need to calculate any calculation manually. All calculation & determinations are done by Intelligent microprocessor, all relevant test result is displayed on the LCD Display, printout in in built Printer and Result retrieval connected to a PC, using the supplied WINDOWS software.

The O2 CAL-M is easy to use and has special features which places it in a league of its own. Accuracy is guaranteed with microprocessors that use self-correcting processes, exceeding the standard requirements of DIN, ASTM and ISO. Its ability to interface with a personal computer, ensure preferred results with displays, data printouts.

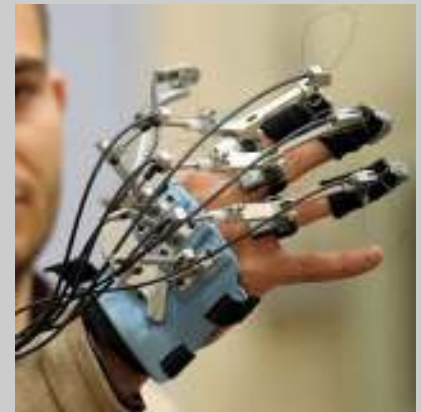


## Robotics & Advanced control

Robots are a fast, flexible, and economical choice for improved manufacturing. Precision Robotics & Automation., has honed it's capabilities to deliver robotics effortlessly in creating efficiencies for your production operations

Our capabilities and services far exceed what is necessary for integration and successful operation of robotics & Automation equipment in your facility.

- Application consultation for new or reconditioned robotic automation systems available.
- Robot and peripheral equipment control interface design.
- Re-commissioning and replacement support of existing or outdated robotic systems.



## Installation / Commissioning

We "Precision Robotics & Automation." offer Installation & commissioning support across the country & our Outsourcing branches nearest to your location are equipped for this. Having handled several projects in diversified fields we have gathered enough experience & a satisfied customer base.

Precision Robotics & Automation. understands from both the client and vendor perspective the specific needs of outsourced service providers and we can help you maximize performance. Your center also can become certified to the Precision's Outsource Service Provider (OSP) Standard, which was developed specifically for your work environment.





# In the most demanding industrial environments, we can monitor your machinery and be a valuable part of your proactive maintenance program.

Design Development & Manufacture of Embedded systems including Hardware design,, Software development, firmware development, mechanical design, Analog and digital design Prototype assembly, Robotics Sensors, Feedback Control & Automation, Testing Machines design in field of Automotive Defense, Education & Research Institute, Laboratory & Industries.

Precision Robotic & Automation is a complete electronic embedded product design company, providing expertise in all phases of electronic embedded product design & development, from proposal to production.

We can provide all engineering services, including: System design, project scheduling, development cost estimates, hardware design, component selection PCB fabrication, software development, firmware development, mechanical design, and prototype assembly in field of Automotive, Aerospace, Defense Education, Electronics Design/Manufacturing, Energy, Industrial Automation, Instrumentation, Medical Devices, Military, Semiconductor and Telecom/Datacom.

Our expertise is in on-time, hardware / software / system design at very competitive rates. With our expertise having deep experience in digital, Analog, Electro-mechanical microcontroller design, and feed-back control, together with a high level of software development skill, CAD design and mechanical design,

ISO 9001:2008  
CERTIFIED

**For FREE Application Assistance,  
Contact Us 91-9993350000**

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