

Measurement system

The Posimag position sensor model PMIS4 and corresponding wheel model PMIR4 from **ASM Sensors** use different magnetic wheel diameters to meet most resolution and speed requirements. Posimag is a contact-free measurement system resistant to



dust, shavings, and liquids commonly found in industrial environments. Potted to offer resistance against shock, vibration, and humidity, the housing of the PMIS4 also protects against electromagnetic disturbances and helps with thermal dissipation. The wheel features a magnetized material available with an optional mark that produces an index pulse signal per revolution. Output pulses are available with decade, binary, or angle divisions for speed and angle measurements.

Fluid analysis

Eaton's Vickers Fluid Analysis Service offers fluid testing and diagnostic services on demand. By detecting fluid contaminants that cause hydraulic system failures, the service can help reduce equipment downtimes, maintain component performance, and identify



substandard maintenance practices. Users draw hydraulic or lubrication system fluid with an analysis kit, then send it to the Eaton ISO 17025-certified lab for testing, which may include an ISO cleanliness rating, photomicrography, viscosity analysis, water analysis, and drawdown particle isolation. Results include a detailed report and photos of the contaminants, all returned within 24 h.

Diffused microphone

The Vibration Division of **PCB Piezotronics** offers the Model 377B20 prepolarized, 0.5-in random-incidence, diffuse-field microphone, which operates from ICP sensor power. Featuring an extended frequency range to 16 kHz, a sensitivity of 50 mV/Pa, and a dynamic range of 15 to 146 dB(A),



Model 377B20 is powered by a 2- to 20-mA signal conditioner and standard coaxial cables, operating from the same power required for ICP accelerometers. The microphone is suitable for use with interior cabin testing of vehicles, general NVH testing, and other applications where the user needs to measure omnidirectional sound pressure levels.

Laser measurement

The XD Laser Measurement System from **Automated Precision** can simultaneously measure all axis errors for machine tool error assessment in 3 to 4 h. Features include wireless operation, a control box integrated into the laser head for portability, ethernet connectivity, wireless data transfer capability, and available humidity



sensor. The laser provides complete machine assessment with less downtime and automatically offers roll measurement around an axis along with linearity, X & Y straightness, pitch, and yaw measurements. Available in two grades of accuracy, the system allows simultaneous data collection of up to six degrees of freedom at once.

Web-based reporting

MAHLE Powertrain's Test Systems division developed ReportLogiq, a Web-based data reporting and alert system that allows users to configure their data into reports that are decision-ready. Reports can be customized, and the system can be used with most existing testing data. For



each data set or test result, the user can create new report structures without major program changes. A tabular hierarchy allows users to navigate through saved reports, and a graphical filter sifts through source data to display relevant data for specific analysis. Other features include clear reporting, real-time alerts, and customizable alert conditions and trigger modes. The system runs on a Web server with a **Microsoft** Windows- or Linux-based operating system.

Motor testing

The DynoLAB LT from **SAKOR Technologies** offers test control and data acquisition capabilities required for basic electric motor testing as well as the benefits of an ac motoring dynamometer.



Features include a fixed I/O configuration optimized for basic electric motor testing, provisions for measuring speed and torque, and optional voltage and current supply to the tested motor. The system uses the data to calculate values such as input and output power and efficiency.

Hydraulic multimeter

The DHM series Digital Hydraulic Multimeter from **Webster Instruments** provides digital readout of pressure, peak pressure, volumetric efficiency, and hydraulic power as well as flow rate and fluid temperature. Three main display screens can be user-selected with a four-



button keypad. Other features include a built-in bidirectional loading valve with safety discs, automatic calculation and display of pump volumetric efficiency, a shuttle valve integral to the design to allow high-pressure sensing from one point regardless of flow, and a sunlight-readable, 2 x 4-in LCD screen. Two models offer flow ranges of 100 or 200 gal/min (380 or 760 L/min), peak pressure to 9000 psi (620 bar), and temperature to 250°F (121°C).

Shock recorder

The EDR-3C shock, vibration, and environmental recorder from **Instrumented Sensor Technology** is a portable, digital sensor/recorder designed to measure shock, vibration, temperature, humidity, pressure, or resistance-bridge devices.



The programmable unit tags all acceleration events with a time and date to provide a history of the environment experienced during a recording session. Recorders are powered by a C-Cell or optional 9-V battery pack. Other features include downloads via serial and USB, a built-in triaxial accelerometer, sliding window overwrite mode, up to six channels, and a compact size of 37 in³ (940 mm³).

Testing solutions

MTS Systems adds products to its suite of mechanical drivetrain testing solutions, including a series of permanent-magnet dynamometers that offer the low inertia and high controllability required for studying traction control, durability



testing, and NVH. In addition to dynamometers, the testing suite includes Four Square systems, which simulate service conditions in testing shafts and joints, and Spinning Torsion Systems. The torsion systems are electronic-controlled bench-based test systems for characterization and durability testing of dampers used in manual clutches, torque converters, and other transmission devices. The entire suite validates components and systems that transmit torque from engine to wheels, including transmissions, clutches, transfer cases, shafts, axles, and differentials.

Digital control

A digital control system from **Atlas Material Testing Technology** for the Ci4000 Xenon-arc Weather-Ometer offers improved flexibility and control of accelerated weathering testing. Users can analyze instrument performance, monitor test parameters, and perform calibra-



tion procedures. A full-color touch-screen display offers intuitive icons for interpretation of operating parameters and warnings. Memory capacity has been increased, allowing additional functions such as water resistively and lamp water temperature. Other features include an embedded control system with scalability, digital network, sub-cycle repeat programming, smart media card interface, full-color trend plot screen, and streaming data output.

Electromagnetic chamber

MIRA creates the Heavy Vehicle Semi-Anechoic Chamber (HVSAC), an independent absorber-lined electromagnetic compatibility chamber with a 70-ton (63-t) floor loading capacity, capable of testing



large military, off-highway, and commercial vehicles. The HVSAC features a 20 x 11 x 7 m (66 x 36 x 23 ft) main chamber and a 4 x 4 m (13 x 13 ft) entrance as well as a semi-anechoic partial lining. The chamber enables users to assess a vehicle's entire electrical system simultaneously to ensure compatibility.