

Product showcase

Impact tester

The Dynatup 9250 from **Instron** is designed to measure energy absorption and related impact properties of polymers, metals, composites, and resulting final components. The drop tower features complete computer control that uses Impulse, a software and electronics package designed for impact testing. The device captures, plots, and analyzes the entire impact event, enabling the user to determine important characteristics such as incipient damage, ductile-to-brittle transition point, maximum load, and total energy absorbed. It can also test materials in extreme temperatures and is available with a specimen feeder option for high throughput testing.



Height gauge

Mahr Federal's Digimar 817 CLM Height Measuring Instrument has three distinct ways to initiate measurement. In addition to normal keypad initiation, a Quick Mode feature allows the measurement cycle to be initiated by pushing the carriage in the direction of the object to be measured. Two speed keys on the base allow the operator to move the measuring carriage to the desired position and start a measurement. The instrument also features an easy-to-program Teach-In Mode, air bearing system for smooth movement, optical incremental measuring system with double reader head that is insensitive to dirt, and a dynamic probing system for high repeatability.



Indicator bolt

The HR (High Resolution) SmartBolt from **Stress Indicators** is armed with a sensitive optical micro-indicator element that allows quick-look inspection. The indicator, located in the center of the bolt head, remains yellow as the fastener elongates while being initially tightened. When about 85% of the design tension is achieved, the indicator rapidly turns to a bright green at 100%. When tightened beyond design specifications, the indicator darkens until it is nearly black. Should the bolt loosen more than 10-15%, the indicator returns to bright yellow, warning observers there is a problem.



Optical media converter

The dual RJ45-enabled media converter from **Stratos Optical Technologies** provides a single, standalone bulkhead conversion solution for multimode Gigabit ethernet links. The converter provides 1.25 Gbps data rate conversion for link distances up to 550 m. By enabling users to replace conventional solutions involving fiber modems and fiber cable assemblies, the Stratos active bulkhead (with electrical/optical media converter built into the interior of the optical port) reduces overall space and weight requirements while increasing reliability. The converter is suited for the ruggedized networks used in certain aviation applications. It performs the copper to fiber conversion assignment to the most rigorous industry and military standards for reliable voice, data, and video signal transport.



High-performance antennas

TECOM Industries' high-performance dual patch antennas are suited for asset tracking/SATCOM applications. The antenna covers the 1610 to 1626.5 MHz transmit and 2483.5 to 2500 MHz receive frequency bands and uses a proprietary design technique to obtain high isolation between bands. The antenna size is 3.5 in wide and 1.5 in tall. It can be configured with straight SMA connectors or with cable-terminated SMA connectors in a direct mount or magnetic mount base. Features include waterproof enclosure for land mobile or fixed use, hemispherical gain coverage, axial ratio better than 3 dB(A) in coverage range, and good low-angle performance close to the horizon.



Air data/attitude heading

Chelton Flight Systems' combined digital air data and strap-down solid-state attitude/heading reference system (ADAHRS) is one-tenth the size and one-eighth the mass of the two devices it replaces. The unit is designed for both fixed- and rotary-wing aircraft and is designed to provide precise digital output and referencing of aircraft position, rate, vector, and acceleration data. It also interprets information from the pitot-static system and an outside air temperature probe to generate altitude, vertical speed, air speed, and total air temperature. The air data and attitude



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functions are physically separated inside the enclosure by a firewall and do not depend on one another for operation. Dual redundant power inputs and internal busses provide power to both the air data computer and attitude gyro, leaving no single point of electrical failure.

Positioning stages

Compact, single-rail positioning stages from **H2W Technologies** are lightweight, have a small footprint, and offer high speed of 6 m/s. Other features include high acceleration up to 12 g, zero cogging, high resolution to 0.1 μm , high repeatability to $\pm 1 \mu\text{m}$, and load capacity to 25 kg. The high-speed linear motor stages are suited for applications requiring high acceleration, high accuracy, repeatability, and reliability such as vision inspection and flight simulators. The standard noncontact three-phase brushless motors have an ironless core winding resulting in a low-moving mass stage for higher acceleration. The motors



can be commutated either sinusoidally or trapezoidally for optimum performance. They have continuous forces up to 730 N and peak forces up to 2400 N.

X-ray fluorescence analyzer

The X-MET3000TXV+ from **Oxford Instruments** is a portable X-ray fluorescence (XRF) analyzer with vacuum pump for the analysis of light metal alloys. The system can measure silicon and magnesium in aluminum and the aluminum in titanium alloys in airplane components that were previously not measurable with portable XRF instruments. By pulling the trigger, the device delivers results for rapid and accurate alloy identification as well as a detailed quantitative analysis of the sample composition. The vacuum feature is enhanced by the PentaPIN detector, which delivers with a 10-second analysis the equivalent of a 30-second analysis made using an instrument with a standard Si-PIN detector.



Classified Advertising...

Safe Flight Instrument Corporation, a company specializing in aircraft safety and performance systems, seeks full-time experienced personnel.

Digital Design Engineer

Engineer (BEE) with 5 years experience in embedded real-time systems development. Familiarity with Intel microprocessors, MSI Sequential Logic, PAL/FPGA, and digital systems architecture.

Hardware Design Engineer

Analytical skills with a minimum of 3 years experience in digital circuit design, test & integration. Knowledge of digital signal processing, VHDL targeting FPGA's (Altera, Xilinx), MATLAB and debugging embedded systems is highly desirable. Use of Altium Circuit Studio desirable, but not a requirement. Some firmware programming is also required. BSEE or MSEE required.

Mechanical Engineer

Mechanical Engineer (BME) with 5 years experience in engineering. Aerospace experience and knowledge of FAA certification requirements are preferred. Design skills using 3-D CAD program is preferred.

Program Manager

Engineer (BEE) with 10+ years experience in aircraft avionics systems including systems definition, aircraft systems integration, and familiarity with FARs, JARs and other certification requirements for commercial aircraft and rotorcraft. Background should include analog and digital design.

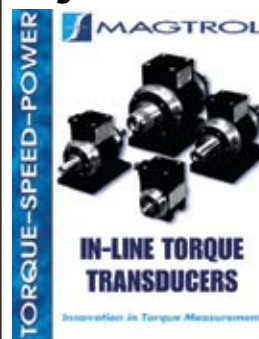
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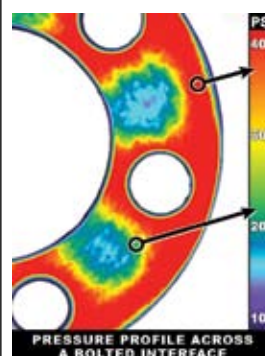
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