



Precision Inertial Sensors

RUGGED • RELIABLE • EASY-TO-USE



Precision Inertial Sensors & Systems

An Industry Leader Since 1987

Spectrum Sensors & Controls' Precision Inertial Products Operation, formerly Summit Instruments Inc., is a proven leader in providing electronic test and measurement solutions and inertial sensors for demanding industrial, military, aerospace, and research applications. Our accurate, rugged and easy-to-use line of MEMS accelerometers, rate gyros and inertial measurement systems meet the complex measurement needs of OEMs, as well as test and measurement labs worldwide.

Custom Application Specific Solutions

Often, off-the-shelf inertial sensors do not meet the measurement and environmental demands of many OEM applications. Although many of our standard products satisfy a variety of test and measurement applications, our engineering team is prepared to develop a custom solution meeting your specific requirements. We can accommodate a variety of full-scale ranges, bandwidths and signal conditioning requirements to optimize performance. Special packaging, including custom cable and terminations, can be quickly and easily integrated into our sensors. We ensure your satisfaction by providing full application support and NIST traceable calibrations.

Responsive Engineering & Customer Service

Our capable engineers can either modify an existing sensor product or design a new "clean sheet" solution within a timeline that meets your requirements. And following production release, our customer service group will work with you for complete global logistical support, including schedule sharing programs.

World Class Quality

ISO 9001:2000

As a business unit of Spectrum Control, Inc., ISO 9001:2000 certified Spectrum Sensors & Controls adheres to world class manufacturing techniques ensuring each customer receives the reliability they demand. This commitment to quality has produced a reputation for dependability and resulted in preferred supplier status at many OEMs.

Flexible Manufacturing Centers

Complementing our inertial sensor design and manufacturing facility in Akron, Ohio are low cost production centers in Mexico and China. These highly efficient plants provide additional capacity and flexibility allowing us to schedule production globally and ramp-up to meet fast-track delivery requirements. Whether your requirement is for a small number of sensors or a high volume application, Spectrum is your source.



Formerly



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Analog Accelerometers



A cost effective solution for your measurement needs... Spectrum Sensors & Controls analog accelerometers are built to your g-range, bandwidth and termination specifications. We start with silicon MEMS technology and add proprietary compensation algorithms, along with NIST traceable calibration and rigorous quality testing, to make sure you get the reliable data needed for your applications.

Features

- Rugged, Reliable Performance
- High Accuracy and Linearity over Wide Temperature Range
- Precision Alignment on most Triaxial Models
- Flexible Termination Options
- Calibration Certificate
- Self-Test on Digital Command
- Small Size
- Built-In Power Supply Regulation
- Suitable for Harsh Environments
- Wide Bandwidth available in Uniaxial, Biaxial, and Triaxial Series
- IdentiCal™ Interchangeable Uniaxial Analog Accelerometer
- Three-year Warranty



Model Number	Axes	g Range	Bandwidth [Max Hz]
13201A	1	±1g to ±2g	2100
23201A	2	±1g to ±2g	2100
34201A	3	±1g to ±2g	2100
13203CC	1	±1g to ±15g	800
34205A	3	±5g to ±50g	2000
13200C	1	±10g to ±70g	400
23200C	2	±10g to ±70g	400
34200B	3	±10g to ±70g	400
13207A	1	±10g to ±70g	10000
23207A	2	±10g to ±70g	10000
34207A	3	±10g to ±70g	10000
34206A	3	±100g	2500
XL403A	1, 2 or 3	±1g to ±15g	800

Digital Accelerometers



Spectrum Sensors & Controls digital accelerometers provide for maximum ease of use. Measurements can be taken within minutes of removing the sensor from the box. The digital accelerometer simply connects to your PC and measurements are returned directly in g values. The full scale range and bandwidth of each internal accelerometer can be configured by the user at any time with our provided Instrument Configuration Utility (ICU) software.

Features

- User Configurable Settings
- RS485 Serial and Analog Outputs
- High Accuracy and Linearity over Wide Temperature Range
- Rugged, Reliable High Temperature Aluminum Packaging with Integral Mounting
- True DC Response with Bandwidths to 10 kHz for ±70g Models and 2100 Hz for ±2g Models
- Fully Calibrated to NIST Traceable Standards, with Built-in Calibration Data
- Suitable for Harsh Environments
- Three-year Factory Warranty
- Complete Units; No External Amplifiers, Signal Conditioners, or Digitizers Required

Model Number	Axes	g Range	Bandwidth [Max Hz]
15201A	1	±1g to ±2g	2100
25201A	2	±1g to ±2g	2100
35201A	3	±1g to ±2g	2100
15203B	1	±1g to ±15g	800
25203B	2	±1g to ±15g	800
35203B	3	±1g to ±15g	800
15200B	1	±10g to ±70g	400
25200B	2	±10g to ±70g	400
35200B	3	±10g to ±70g	400
15207A	1	±10g to ±70g	10000
25207A	2	±10g to ±70g	10000
35207A	3	±10g to ±70g	10000
35208A	3	±250g or ±500g	10000

Rate Gyros



Spectrum Sensors & Controls offers a complete line of instrumentation grade rate gyros, built to customer specifications so you can get the exact configuration required for your rotational or angular rate measurements. Our triaxial rate gyros are capable of sensing angular rate around three orthogonal axes. Fully temperature compensated analog outputs are available for the X, Y and Z axes. Rate gyros are packaged in a rugged aluminum enclosure less than one cubic inch.

Features

- Wide 100 Hz Bandwidth
- High Accuracy and Linearity over Wide Temperature Range
- Fully Calibrated to NIST Traceable Standards with Certificate
- IdentiCal™ Interchangeable Model (Uniaxial)
- Small Size
- Choice of Cables and PCB Termination Options
- Suitable for Harsh Environments
- Three-year Factory Warranty



Eliminate the
Management of
Calibration Data

Model Number	Axes	Rate Range [°/s]	Bandwidth [Max Hz]
11206AC	1	±50 to ±600	100
31206B	3	±50 to ±600	100
31207B	3	±1000 to ±1200	100
31208A	3	±2000 to ±20000	100

Inertial Measurement Systems



Spectrum Sensors & Controls currently offers three models of inertial measurement systems, 65210E, 65210ES, and 65210A*. Designed primarily for aircraft stores separation tests and captive carry testing, these units are sometimes referred to as 6DoF (Six Degrees of Freedom) or TM (Telemetry) kits. These sealed units can contain sensors to measure up to ±100 g accelerations and ±20,000°/sec rotations.

* 65210A not recommended for new designs

Features

- Completely Self-contained; No Need for External Power Source
- Easy-to-use, Install, and Configure
- User-programmable Settings
- Can be Set Up in 20 Minutes or Less
- IRIG-106 Compliant Wireless Telemetry Transmitters Available
- Free ICU Software for Instrument Configuration and TMATS File Generation
- Extended Model (65210E) Accommodates External Inputs

Model Number	Axes	g Range	Rate Range [°/s]	Bandwidth [Max Hz]
65210E†	6	±10 to ±100	±1000 to ±20000	2500
65210ES	6	±10 to ±100	±1000 to ±20000	2500

† External signal input capability.

Custom Capabilities



Spectrum Sensors & Controls' Precision Inertial Products Operation takes great pride in providing custom solutions to meet specific customer needs. If our standard products don't quite suit your project, we're prepared to design an inertial sensor that satisfies your exact requirements.

Although analog accelerometers and rate gyros are built-to-order, you are not forced to accept only limited standard selections. We can accommodate specific requests for special full-scale ranges, bandwidths, cable lengths and terminations.

Digital accelerometers, although already very versatile, can also be tailored. An example is a manufacturer of airborne diagnostics equipment who required DO-160 qualifications plus a special finish, cable, and termination. A standard product design was modified to rapidly meet these requirements.

Our inertial measurement systems can also be customized to meet specific requirements. The 65210E uses small plug-in signal conditioning modules to integrate external sensors and signals into the measurement stream. The design allows for rapid development of new or modified signal conditioning modules to meet specific requirements.

Whether your needs are for an existing product packaged differently or a completely new solution, contact us to see how we can help. Our talented engineers and designers will work to determine exactly what the requirements are for your application and develop a specific solution.

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- Linear, rotary, motorized and hollow shaft potentiometers with longest life - 100 million cycles
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