



Precision Products / Measuring

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Kaman Measuring Announces New Digital Differential Impedance Transducer (DDIT)

Specially designed for non-contact linear position displacement sensing applications

Middletown, CT – The Measuring Division of Kaman Precision Products, Inc., the world leader in the design and manufacture of high-performance position measurement systems, announces the release of a new eddy current measurement system, the Digital Differential Impedance Transducer (DDIT). The DDIT is designed to provide a digital interface for high speed eddy current measurement systems, with resolution in the micro-inch range, at bandwidths as high as 60 kilohertz (kHz). It is ideal for use in applications for fast steering mirrors, magnetic bearing active control, shaft vibration, image stabilization, and adaptive optics. Using a standard 9D connector for reading data, power, and control signals, the system operates from a single power supply with a voltage range of 8-28 volts.



Kaman's custom sensors, signal processing, analog to digital converter, and custom calibration system are used to deliver each high precision Digital DIT sensor system. The DDIT is available in three configurations: The Digital System is designed to interface directly to an embedded controller with a master serial peripheral interface (SPI) bus. The ANA (analog) System provides linear analog voltage, with a full range output signal of 0-5 VDC with a null position of 2.5 VDC. The FE System is designed for field-programmable gate array (FPGA) interface for high speed operation, with data rates as high as 128 kHz, 48 bits of data, 60 kHz bandwidth, and no internal firmware.



Kaman sensors are designed and tuned for specific applications. The DDIT system utilizes two matched sensor pairs for optimum operation for each channel. The input signals are filtered and scaled to provide optimum operation, remove common mode noise, and provide a drive signal. The signal processing also provides digital filtering as part of the signal conditioning to reduce signal noise.

Kaman's Digital DIT system samples data at 8 times the data rate. The oversampling provides higher resolution at the defined data rate. This results in signal resolution that is eight times better than a system sampling at the Nyquist rate.

For more information about Kaman's family of Digital Differential Impedance Transducers, visit http://www.kamansensors.com/pdf_files/KPP_DDIT_SS_FINAL.pdf, or to learn about Kaman Measuring products, visit <http://www.kamansensors.com>.

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About Kaman Precision Products Measurement Division

Kaman Precision Products Measurement Division is a worldwide leader in the design and production of high-performance, precision non-contact position measuring systems using inductive, Eddy current technology. Recognizing that each customer has specific individual requirements, Kaman consults with customers to help choose the best sensor, conditioning electronics, and calibration for each application. With more than 40 years of experience, our advanced family of high-precision position sensors is used in hundreds of applications in aerospace, automotive, energy, metals production, metalworking industries, and many others.

Part of Kaman Corporation of Bloomfield, Connecticut, we design and manufacture our products at a state of the art production facility that meets AS9100/B and ISO 9001:2000 quality management system requirements.

For more information call 800-552-6267, email measuring@kaman.com or go to www.kamansensors.com.