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2004

technology
in review

A look back at some of the most significant technological innovations in the news over the past year.

Kavlico differentiates emissions

Aftertreatment technologies will be the diesel-engine industry's next "playing field for emissions control," according to **Kavlico**. Many suppliers have come up with many solutions to compete for the emissions-control market, which is driven mainly by mandated EPA regulations.

Kavlico's solution involves the reduction of particulate matter through the use of a particulate filter system that is managed via the company's differential-pressure (DP) sensors. For OEM applications, Kavlico's DP sensors were designed with ASICs (application-specific integrated circuits) that include a number of features that correlate to customer requirements.

One of the company's ceramic capacitive-based DP sensors was designed to perform where narrow pressure ranges of about 1 to 5 psi (7 to 35 kPa) are needed along with high-overpressure capability up to 100 psi (690 kPa). The high-overpressure capability is achieved via a specially designed housing, seal, and fastening approach. Equipped with a customer flange bracket, face seal ports, and integrated connector, the device can measure custom pressure ranges from 3 to 50 psi (20 to 345 kPa). This particular sensor design is suited for most rugged applications where exhaust media and corrosion durability are needed due to toxic environmental surroundings.

Other Kavlico DP sensors using ceramic capacitive-based technology for particulate trap filter clogging monitoring have been "widely used" in Europe, according to the company. This high-accuracy sensor was designed to perform at 0 to 15 psi (0 to 100 kPa). Overpressure capacity is 30 psi (200 kPa).

Cost-effective and reliable ultrasonic welds fasten the internal EMI-shielded product together to complete the sensor package. The sensor can be equipped with an integrally molded flange



Kavlico's aftertreatment solutions for particulate filter monitoring systems (shown is a differential-pressure sensor) range from rugged and robust to cost-effective and competitive designs based on OEM-specific applications.

bracket, protruding pressure ports for hose mounts, and molded connector. This sensor performs best in moderate exhaust media environments.

Kavlico's proprietary micro-machined piezoresistive sensing technology is used in another product for filter monitoring. This sensor has a measurement range of 0 to 15 psi (0 to 100 kPa) and has an overpressure capacity of 30 psi (200 kPa). This particular device is targeted for large OEMs requiring high volumes of sensors in cost-competitive environments. A tube-mount arrangement eliminates the need for special mounting hardware.