Capacitive Fluid-Level Sensors

MDT Staff

Molex Incorporated will showcase their customized capacitive fluid-level sensors, a low-cost measuring solution with disposable sensors and reusable electronic circuitry, at Molex booth #1983 at MD&M West Show, February 12-14, Anaheim Convention Center, CA. Designed for measuring fluid or granular material in non-metallic containers, the patent pending sensor electrode design and configurable software provide higher accuracy with lower hardware cost and easier installation.

“Many factors go into customer selection of fluid-monitoring equipment for industrial and commercial processes,” states Steve Fulton, engineering manager, Molex. “Capacitive fluid-level sensors solve the challenge of detecting substances in containers for continuous and threshold measurement without directly contacting the materials.”

Custom designed capacitive fluid-level sensors are optimized for medical fluid management systems, automotive fuel tanks, agricultural fluid tanks, hydraulic fluid and pump controls, beverage dispensing systems and other industry applications. Featuring multiple output interface options, including SB, I2C and discrete signals, the capacitive sensors provide a customized interface for virtually any application requirement. The sensors deliver 95 percent accuracy in auto mode and 98 percent accurate when manually calibrated. The embedded software can be configured for maintenance-free auto-calibration or manual calibration to maximize sensor accuracy.

Equipped with flexible circuitry which conforms to the container shape via pressure-sensitive adhesive, capacitive sensors are easily mounted to the outside of a container allowing measurement of caustic fluids, in addition to granular and pulverized materials. The sensors can measure through almost any non-metallic material. Featuring solid-state capacitive technology with no moving parts, capacitive sensors eliminate problems with mechanical wear over time. Providing design flexibility, sensor circuitry substrate options include PCB, polyester flexible circuit and polyimide flexible circuit. A design can use a traditional PCB for a flat surface container or a thin, flexible circuit to accommodate curved surfaces or space-constrained applications.

The new fluid-level capacitive sensors can be mated with virtually any Molex interconnect or cable assembly. They are fully compatible with integrated designs using Molex customized user interfaces, including membrane switches and capacitive touch technology.

For additional information visit: www.molex.com/link/fluidsensor.html [1].

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