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Film Sensors for the Harsh Environment Application

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Abstract : A capacitance level sensor with a segmented film electrode and a thin-film volume flow sensor with an innovative by-pass sleeve is presented as industrial products for the application in a harsh environment. The working principle of such sensors is well known; however, the traditional sensors show some limitations for certain industrial measurements. The two sensors presented in this paper overcome this limitation and enlarge the application spectrum. The problem is analyzed, and the solution is given. The emphasis of the paper is on developing the problem-solving concepts and the realization of the corresponding measuring circuits. These should give advice and encouragement, how we can still develop electronic measuring products in an almost saturated market.

Keywords : by-pass sleeve, charge transfer circuit, fixed ΔT circuit, harsh environment, industrial application, segmented electrode
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