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INCREASING OF THE PERFORMANCE OF MEASURING SYSTEMS WITH CAPACITIVE SENSORS

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Abstract

The paper discusses the measurement method and the principle functioning of a channel, which expand the possibilities of increasing noise immunity and resolution ability of the measuring instruments for control of the parameters of moving objects. The main method to achieve the goal is the maximum approximation of the time of signal accumulation to the period of possible interaction of the sensor with the object of measurement. It is also important to synchronize these time slots, in particular, the sampling time (integration) of the sensor signal with the required position of the measurement object. The solution of such task is possible by combining parallel and serial transformation of the informative signal, using work coordination of several integrating ADC. Managing of convertation and its synchronizing with the object are performed by the microcontroller of the measurement channel. References 7, figures 5.

Key words: measurement, gap, capacitive sensor, noise immunity, resolution.

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