A New Kind of Time Measurement Method for Control System of Flowrate Standard Facility

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As we know, timer is an important part of the flowrate standard facility which is directly related to the uncertainty of the flowrate standard facility. Currently, an overwhelming majority of flowrate standard facilities using PLC require the external pulse generator as time standard for control system of flowrate standard facility.

In this paper, we use the PLC internal clock as the time standard for the flowrate standard facility by the function of millisecond timer interrupt and immediate data output, which is not affected by the PLC internal program performing a scan cycle. The new method is verified by experiment, the experiment shows that the PLC internal clock can measure the timer’s stability and time interval accurately, the uncertainty of the timer meets the requirements of the flowrate standard facility.