

AUTOMATION OF INDUSTRIAL PROCESSES FOR CONTROL OF VARIABLES

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Resumo

The use of instrumentation and control of process is important for every industries that have a necessity of maintain variables stable and controlled. An exemple of a process that has to be controlled is the water treatment, where parameters such as turbidity, residual chlorine and temperature must be monitored, to provide quality water to those who will consume. A problem in many treatment stations of water is the formation of potentially carcinogenic disinfection by-products (DBPs). In the water treatment of United States the most common class of DBPs are the trihalomethanes (THMs), which have a difficult and expensive control, because the concentration varies a lot in the short term. In this case it is suggested the implantation of a chemical analyser, which be capable of analyzing the concentration of THMs on-site and send all the data obtained to a spreadsheet. Must of the variables detected and measured in chemical process depend and should be compensated by the temperature and its variations. Temperature sensors are the most used and with advances of technologies increase requirements, such as smaller size, lower power consumption and longer range of sensors. To comply these demands silicon diodes and transistors are increasingly being used as temperature sensors. As also have low cost and high accuracy, they are used in a wide variety of applications such as cryogenic measurements,

pH, pressure, humidity, thermal conductivity of gases, high temperature measurements, integrated circuits, flow and infrared detectors.

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